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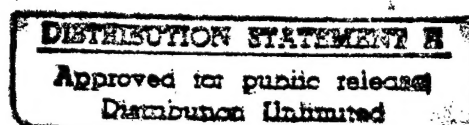
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TRANSLATIONS ON THE BUILDING MATERIALS
INDUSTRY IN COMMUNIST CHINA

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TRANSLATIONS ON THE BUILDING MATERIALS
INDUSTRY IN COMMUNIST CHINA

[The following are full translations and extracts of selected articles from Chien-chu Ts'ai-liao Kung-yeh (Building Materials Industry), Peiping, issues No 19, 20, 21 and 22, 1959.]

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RESOLUTELY IMPLEMENT THE POLICY OF "WALKING ON TWO LEGS"
AND STRUGGLE FOR OVERFULFILLMENT OF
THE 1959 PRODUCTION PLAN

[This is a translation of the summary of the address of Deputy Minister Ch'en Yun-t'ao to the National Building Materials Production Conference, published in Chien-chu Ts'ai-liao Kung-yeh (Building Materials Industry), Peiping, No 19, 7 October 1959, pp 3-4.]

The communique and resolution of the Eighth Plenum of the Eighth Central Committee of the Party roused the productive activism of the broad masses of workers and their zeal for a continued leap forward. All industries have brought into being a new hightide of the movement for increased production and economy.

The August output of cement, glass, porcelain, and gypsum showed a great increase over July. The large cement works increased production by 5.6 percent; the small cement works by more than 20 percent; pane glass by 32 percent, sanitary appliances by 10.6 percent; and gypsum by 55.4 percent.

During the first ten-day period of September, output was further increased compared with August. The daily output of cement was raised 18 percent; the daily output of pane glass raised by 16.61 percent.

The quality of all products also greatly improved. The quality of cement was one hundred percent in conformity with specifications, and the quality of grade one glass was further raised. As an example, more than 99 percent of the output of the Dairen Glass Works, was grade one glass.

In order to increase output, all industries have adopted various measures. The cement works have popularized or are beginning to popularize, 74 advanced technical measures. These include the use of two-end feeding, black putty, lime ingredients, mineral dreg ingredients, additional grinding agents, and paste spraying. The Harbin Cement Works resumed the use of lime as an ingredient, and the No. 1 kiln increased its hourly output from 20 tons to 31 tons.

The various glassworks also adopted effective measures for

increasing production. The Dairen Glass Works adopted a rational suggestion for widening trough outlets, and each drawing machine increased its daily output by 700 square meters.

In the course of production, many industry leadership cadres penetrated production fronts, grasped key problems, attended to production plans and production increase measures. The Hua-Hsin Cement Works organized a department for directing key operations, composed of the Works Manager, the chief engineer, and the chief of the laboratory. The various workshops organized teams for directing key operations, and joined workers in tackling key production problems. They thus raised the output of kilns and mills. The leadership cadres of the Chungking Cement Works labored with the workers at their posts, grasped work plans, and guaranteed the fulfillment and overfulfillment of production plans for each ten-day period of the month.

At the moment, a new production hightide is forging ahead. Various industries have created all kinds and forms of emulation. These include man-to-man emulation, championship emulation, serial emulation, and a conclusion of contracts linking up a whole factory. This has played a vital role in solving key production problems and in guaranteeing fulfillment of increased production and economy plans.

In 1958, various places established many cement works which combined small native and small modern operational methods. This factor played a major role in promoting farmland conservation and local capital construction. In 1959, these cement works were overhauled, consolidated and elevated. The overwhelming majority of them have switched to modern operational methods and become small modern cement works. Not only have they increased output, and raised quality, but they have also lowered production costs.

In 1959 these small cement works will reach a production capacity of 5 million tons. We never could have imagined the speed of their development. It is unprecedented in history. Some people doubt if these small cement works conform with policies for quantity, speed, quality and economy. The experiences of more than one year have proved that small cement works possess many superior features such as small investments involved, speed in construction, simplicity of equipment, economy of steel materials, easier mastery of production techniques, and production of immediate results. Furthermore, on the foundation of the great developments of 1958, after overhauling and elevation is carried out in 1959 and 1960, their

quality of production, labor efficiency, and production costs will approach or even reach the levels of large modern cement works. Thus the doubts expressed are baseless.

Speaking of the history of the development of the cement industry in China, in the past we spent more than 50 years in extensive operations of large modern works. However, our productive capacity reached only a little more than 10 million tons. We spent only a little more than a year in our development of small modern cement works, and our productive capacity has already reached 5 million tons. Had it not been for the fact that we are walking on two feet, how could we have achieved this productive capacity of 5 million tons?

In 1959 we must resolutely develop small modern cement works and grasp tightly the production and capital construction of small modern cement works so that they may play an even greater role. Of course, the large modern cement works constitute the backbone of the cement industry, and we must at all times develop this backbone. We must actively attend to their production and construction. But if we are to develop at high speed our cement industry, we must rely on two feet in walking.

In the next few months we still have a difficult task connected with the production of building supplies. In cement, we must guarantee the fulfillment or near fulfillment of the targets laid down in the Second Five-Year Plan, and strive to approach or catch up with the output of Britain. In glass, we must strive to reach an annual production of six million cases. In the other building materials and non-metal minerals we must seek to produce much more than we planned.

In order to realize the increased production plans of 1959, all industrial enterprises must earnestly implement the spirit of the Eighth Plenum of the Eighth Central Committee of the Party, continue to criticize rightist thinking, adhere to letting politics assume command, adhere to the working method of pursuing the mass line, and penetratingly develop the movement for increased production and economy. In September we must especially grip our tasks tightly, and greet the tenth anniversary of the founding of the state with an overfulfillment of production plans for September and for the third quarter of 1959.

For this reason, we ask all industrial enterprises to grip tightly their production plans each shift and each day, inspecting progress and analyzing results. We must strengthen

concrete leadership and organizational work, strictly control output figures per shift and per day, place under control key problems and measures for increased production.

In cement, we must popularize the various advanced experiences which have been proved effective. We must rapidly raise the output in each kiln and from each mill, with particular attention to raising the quality of our finished products.

In glass, we must actively popularize the "four stabilities" (stability of kiln temperature, stability of glass fluid, stability of pressure, and stability of foam lines), work methods, and experiences in the economy of soda ash, coal and timber.

In the non-metal minerals, we must actively popularize our experiences in transport inside the mines, combining native methods with modern methods.

All enterprises must improve the system of responsibility for production, and adjust organs and machinery so that management work may be raised to an advanced level. We must attend seriously to transport, to the manufacture of accessories and strengthen the maintenance, inspection and repair of equipment. We must exploit the potential of the repair shops, and fully utilize scrap materials and substitutes in the manufacture of accessories. We must strengthen safety measures, and prevent accidents. We must earnestly satisfy quality standards, continue to raise the quality of products, guarantee the fulfillment of the kinds and brands of products stipulated by the state. All cement leaving the factory must meet the demands of the state that it be above the 30-50 level. Factories with inferior products must raise their operational techniques, strengthen their analysis work, and curb the trend of seeking quantity to the neglect of quality.

All enterprises must attend properly to preparations for work during the fourth quarter. They must attend properly to the overall arrangements for production, and the supply and transport of raw materials.

We must grip tightly the production and capital construction work connected with small modern plants. Newly constructed small modern plants must attend properly to capital construction, promote cooperation, help one another to meet the deficiency of one with the surplus of another, and strive to begin production at an early date. Cements works which have

started production must strengthen production leadership, improve the enterprise management, strenuously unearth production potentials, improve production techniques, and raise the quantity and quality of cement produced.

We must adopt measures to attend properly to the provision and installation of equipment for projects which are to commence production during the third and the fourth quarters. In order to guarantee that the seven cement works, including that in Yao Hsien, commence production on schedule or ahead of schedule, the Ministry has made available the equipment needed. In addition, we have also organized production, capital construction, installation and designing departments to participate as joint inspection teams, to penetrate work sites, and to solve concrete problems.

All newly built plants and construction departments must fully develop their initial capacity. All plants already in production must also fully develop the Communist spirit of cooperation, so that the newly built plants may commence production at an early date. This will result in a common effort for the overfulfillment of the 1959 production plans. (14 September 1959).

STRIVE TO FULFILL THE 1959 CAPITAL CONSTRUCTION PLAN

AHEAD OF SCHEDULE

/This is a full translation of a report by LAI Chi-fa, Deputy Minister of Construction and Engineering, at the Construction and Engineering Capital Construction Conference, as published in Chien-chu Ts'ai-liao Kung-yeh, Peiping, No 20, 22 October 59, pp 3-8./

The capital construction conference, in session for ten days, will close today. In order to unify our understanding of the discussions so that we may return to our posts and do our work properly I now sum up the views discussed by all of us under eight headings.

I. Evaluation of the Conference

This conference has been well conducted and very timely. Upholding the spirit of the Eighth Plenum of the Eighth Central Committee of the Party as the guiding principle, the conference has inspected the conditions relating to implementation of capital construction plans during the past eight months, exposed and criticized the rightist conservative thinking which exists in a small number of cadres, studied concrete measures for overfulfillment of the capital construction task for 1959 (to strive for having more factories and mines starting production ahead of schedule), and made preliminary arrangements for major construction items for 1960. In these undertakings, the conference has started with theoretical issues and followed them up with practical problems, using the method of leading the concrete with the abstract. After this conference, a greater leap forward situation must emerge in our capital construction work.

Capital construction work during the months January through August 1959 has been attended by achievements. After the inspection and promotion efforts exerted at the conference, it is anticipated that during 1959 we shall complete the construction of above-norm projects to the extent of 227 percent of original plans. After adjustments made in investment, material supply and equipment, these projects will generally be able to commence operations, wholly or partly, before the

end of 1959. The completion of these projects not only provides an effective guarantee for the fulfillment of production plans for 1959 but also lays a good foundation for a continued leap forward in 1960.

The conference also discussed major construction projects in 1960, and made preliminary arrangements for them. This will facilitate early preparation. Capital construction work in 1960 can thus be started earlier and accomplished better than in 1959.

The conference further discussed management work connected with capital construction. This will play an active role in the promotion of strengthened management of capital construction in the future.

Generally speaking, the conference realized its anticipated goal. Questions which called for discussion and solution have been basically discussed and solved. Thus we say that the conference has been properly conducted and its achievements great. However, because of the short time at our disposal, some questions have not been sufficiently discussed. By the same token, certain concrete problems have also not been solved to complete satisfaction. We must study further and solve them in our actual work in the future.

II. Penetratingly Implement the Spirit of the 8th Plenum and Strive for a Greater Leap Forward in Capital Construction in 1959

The resolution of the Eighth Plenum of the Eighth Central Committee has stimulated the people of all China. On every production and construction front in China mass movements have been vigorously developed to oppose rightist thinking, to exert utmost efforts, to strive for overfulfillment of construction plans for 1959 through increased production and economy. In capital construction, opposition to rightist thinking and exertion of utmost efforts are of equal importance.

From the preliminary inspection of conditions carried out at this conference, the majority of cadres in the capital construction departments are active and willing workers. This is one of the major reasons capital construction during January through August 1959 has accomplished more and done better than

in the same period of 1959. However, there are also a small number of cadres with rightist thinking who entertain a mistaken understanding of the entire economic situation. They have a mistaken view on treating all China as a coordinated chess game. They fail to see the need for realistic planning. They stress excessively objective difficulties connected with equipment and raw materials. They see things but not people, saying, "A good daughter-in-law cannot cook without rice." They have a passive, waiting attitude toward work.

Some units consider their own projects as key items. They consider all materials and equipment as "underwritten" by the state. They put their trust entirely on the arrangements of the state. They do not explore all ways and means to discover more measures, to do an even better job. Facts have shown that units which have their work arranged by the state, but which also themselves actively devise ways and means, do a better and quicker job. Work done otherwise is inferior and slow.

There are also cadres who complain that raw materials and equipment were not supplied in good time so that they "have the zeal but not the wherewithal to use it." Especially in projects which are not urgent, these cadres feel that "after making a start, they have nothing more to do." They became relaxed and would not exert efforts to create conditions that would enable them to go on with their work.

There were also cadres with blind optimism. In some key projects, they felt that, since both materials and equipment had been supplied, no further questions needed solution. Some units considered themselves "not quite up to the best, but still better off than the less active." They were not active in their work. Thus, construction was delayed, and the rate of speed declined. This is also, in effect, a manifestation of rightist thinking.

Unless these incorrect ideological situations are immediately overcome, the continued leap forward in capital construction will be adversely affected in 1959.

The conference inspected the above mistaken thoughts and developed criticism and self criticism. This will play a positive role in future capital construction work. Comrades must remember that while we attach importance to the solution of practical problems, we must attach all the more importance to ideological work and to mobilization of the masses. When the masses are mobilized, the work carried out will improve.

Practical problems will also be better solved. Some comrades do not mobilize the masses in the face of difficulties. They mistakenly think that nothing can be done.

Before May 1959, in the capital construction work of our ministry, some material supplies were rather scattered. There were also defects in distribution, so that temporary difficulties were encountered in work. After the Central Government issued directives on shortening the front line and guaranteeing key projects, the situation improved rapidly. This proved that the measures taken by the Central Government were entirely correct.

Some comrades, however, had a mistaken view on this situation and felt erroneously that "the state has serious difficulties." They did not see the positive side. They did not actively devise proper measures to perform their tasks, but passively waited for developments. This is clearly incorrect. We must realize that today's situation, as a whole, is most favorable to us. Especially after the Eighth Plenum of the Eighth Central Committee, a brand new situation has emerged in the economic field of China. All of China is developing mass movements for opposing rightist thinking, exerting utmost efforts, and rigidly practicing increased production and economy. We have already won great achievements from the movement. This is extremely beneficial to our capital construction work during the second half of 1959.

In accordance with the Central Government directive on shortening of the front line, we have carried out an adjustment of capital construction projects, and affirmed that guarantees are provided for the supply of materials needed for items to be completed in 1959. We have also adjusted to some local projects, increased our investment, and allocated supplies. From the viewpoint of material supply, the situation is better than the first half of 1959. What is left will depend on our subjective efforts. If we exert sufficient energy, we shall do a good job. Otherwise, the result will be less satisfactory.

Some units have already reported progress in their work. Take the case of Chuchou Glass Works, which had been carrying on its work in a procrastinating manner. The finishing touches of their job were not completed despite a delay of half a year. After the Eighth Plenum, zeal was aroused. Moreover, during the period of the conference, victorious reports were made. The plant's kiln for pane glass started operations on September 5, and if work goes as it has been, glass can be produced

in October.

From the viewpoint of production, it is also clear that given the same conditions, a plant with greater zeal will increase output while one without zeal will face a decline in output. For example, during the period from the last ten-day period of July thru August 5, the average output of cement was little more than 220,000 tons. However, after the directive from the Central Government on opposing rightist thinking, output increased rapidly from 28,000 to 31,000 tons.

From this we can realize the significance of the call of the Eighth Plenum for opposition to rightist thinking, exertion of utmost efforts, and development of the movement for increased production and economy. Accordingly we must implement the spirit of the Eighth Plenum in capital construction, oppose rightist thinking, exert our utmost efforts, work strenuously for a few months, so as to guarantee fulfillment and make possible overfulfillment of the 1959 capital construction task.

III. 100 Percent Target, 120 Percent Measures, and 240

Percent Zeal

This is the slogan brought forward by the Jen-min Jih-pao in 1958. Today, it is still one hundred percent applicable to us. The targets affirmed at this capital construction conference are "100 percent targets". Of major construction projects, we must strive to complete, before 1959 is over, 127 percent in excess of those planned. Many local projects are also to be completed. We may possibly construct more than 80 small kilns, and some other items. After these projects are completed, large modern cement works may add more than 2.2 million tons to their production capacity. Medium sized and small plants may add more than 2.5 million tons. As to the glass industry, apart from the Chuchow Glass Works, we must strive to complete the Lanchow and Kunming pane glass plants. These will increase output by more than two million cases. After the completion of nine units, including the plants at Shanghai, Hangchow and Harbin, production capacity for high grade glass fiber will be increased by 35 million tons. We originally planned the completion of only one machine building plant. Now, however, we have added two more. The exertion of efforts for the completion of these projects ahead of schedule will not only

play a role in the fulfillment of production plans for 1959, but will play an even greater role in increasing 1960 production.

The targets affirmed at the conference are advanced targets. They are "100 percent targets". Our task of realizing these targets is heavy and complex. There will be difficulties. We must therefore, have "120 percent measures" to guarantee a smooth realization of these "100 percent" targets. What measures should we adopt?

We must first attend to material supplies and equipment. In this connection, our major task is to strive for the delivery of goods on time, and to adopt measures pertaining to specifications and types not conforming to standards. In the course of our discussions, we have brought forward many measures.

First, is the measure of "pressing for delivery". We must press constantly for delivery of materials and equipment already ordered. Some units have brought forward the measure of "not fearing four things": "not fearing tiresome walks, not fearing exhaustive talking, not fearing failure to get requests heard, and not fearing to meet with rebuttals." This calls for patience. If production and supply departments have difficulties, we must do our best to help solve them.

Second, is the measure of "adding up." This means we must first take out materials delivered for projects not included among the urgent items, and use these items to make up material lacking for projects which must be begun in 1959. Materials and equipment can thus be accumulated. Internal adjustments can be made, and cooperation should be sought from outside parties - both are methods for "adding up" supplies. The Chiang-Shan Cement Works lacked steel rails. Chekiang Province, however, provided steel rails delivered for projects which were being postponed. The equipment was completed through this re-allocation. Many items which did not originally make up a whole set became a whole set through this type of arrangement. The result, production became possible.

The third measure is "substitution". Substitutes may be used for equipment and materials which do not conform to specifications, provided the quality is guaranteed. For example, the design for the Hsiao-Li Globular Milling Machine

provided for a 210 kilowatt electric motor. However, an order had been placed for a 180 kilowatt electric motor. In order to advance the start of production, the 180 kilowatt motor was used as a substitute. The boards for the milling machine call for the use of steel with high manganese content. However, if this is lacking, steel with low manganese content may be used in substitution. Some units proposed that when hoisting equipment is not available, manpower can substitute for it temporarily. If such work is properly done, the speed of construction can be accelerated.

The fourth measure is "postponement". In order to guarantee key projects, items which may be postponed must be postponed. The materials and equipment for such projects must be concentrated elsewhere. We should not simultaneously start various projects which will lead to the dispersal of supplies. Once supplies are dispersed, we may never complete items which might otherwise have been completed. In units where decisions have been reached on the second group of projects to be taken up, the completion of the first group must first be guaranteed. The second group should not be started until the first group is completed, lest both groups fail to be completed.

The fifth measure is "manufacture". With regard to equipment which cannot be ordered, what we can manufacture ourselves we shall so manufacture. The province and the municipality may also undertake the manufacture if they can do so. The Ministry must also think of ways of manufacturing equipment which cannot be procured.

The sixth measure is "making up." Where certain materials are insufficient the deficiency must be made up. The conference has already undertaken to supply certain deficiencies. As to whether the supplies are up to specifications, adjustments may be made at the provincial or municipal level.

Currently, there is a special problem which merits attention. This is the subject of purchases from the market. Such things as hardwares and nails may be trivial, but where they are lacking, they affect the start of production. We must hasten to establish ties with commercial departments and have them include our needs in their purchase plans and assume responsibility for delivery. As to important building supplies like timber and cement, we are distributing supplies according to pre-determined, guaranteed proportion.

We must next develop and strengthen the Communist spirit of cooperation. Capital construction covers a wide range of projects. Among related construction units, we must develop Communist character, mutual assistance, and mutual support in order to better fulfill our tasks. In promoting cooperation, it is important to emphasize the relationships among A, B and C. The construction unit is the organization of the construction job as a whole. In the course of construction, how we effect a timely control of progress, a guarantee of quality, and establishment of good relationships among departments engaged in actual construction, provide the key to realistic speed and acceptable quality. Party A should create for Party B conditions destined to permit the latter to proceed with its work smoothly. Party B should concentrate on quality. Some designs may have to be changed. If so, this must be studied with the designing department, and given careful consideration, to avoid having to do a job all over again. We are all enterprises under the leadership of the Ministry of construction and engineering, and should become models for promoting good relations between A and B.

According to the experiences of some units, the establishment of a Party Committee at the worksite is an effective measure leading to unanimity of views and unanimity of action in important areas involving A, B and C. Through the united leadership of the Party, the various groups may jointly cooperate in arrangements for progress and solutions of important problems involving all of them. In this way, we may reduce friction and accelerate speed of construction.

Finally, there are the strengthening of leadership, the control of progress, the control of final touches, and the control of final production. We must devise a plan for progress for each of the projects to be completed within 1959. Progress for each week must be planned, as well as appropriate materials and equipment. When a plan is not fulfilled, the basic reason must be found, and measures taken to resolve difficulties and correct mistakes. Construction blueprints must be prepared thoroughly and explained in detail. This will facilitate the guaranteeing of quality. Otherwise, we may have to re-do certain projects resulting in waste and delay.

There are other units which grasp situations when construction begins and exhibit a lot of zeal. Toward the end of the job, they relax resulting in delays in completion of the job. This is incorrect. We must realize that final

touches also constitute an important link in the construction of a plant, and there must be no relaxation at this stage.

After equipment has been installed, we must carry out trial runs of individual machines and trial runs of all machines together, before starting formal production. Some units start formal production before trial runs. However, when defects are found, repeating jobs results in considerable loss. This is how the Loyang Cement Works damaged two distilling machines with considerable loss, in addition to delaying the start of production. Accordingly, before a completed plant can begin production operations, we must attend to all tasks. Each task should be properly performed and pass through a concrete test.

It will not be enough merely to have all these measures carried out. More important still, we must rely on our subjective efforts to guarantee that the measures are realized. This calls for zeal. According to our experiences, in the course of the realization of certain measures, we shall encounter all kinds of big and small difficulties of varying extent. Problems and difficulties should give no cause for fear. So long as we exert subjective efforts, mobilize the masses and have everybody devise measures, problems and difficulties will be rapidly solved. We must possess "24 percent zeal" in our work. We must fully mobilize the masses, and regularly maintain a high spirit of marching vigorously forward. We must make close arrangements for our work each month, and make regular inspections so as to solve, at all times, problems which exist or crop up. This will guarantee continuous victories, promote our zeal to higher and higher levels, and accelerate our speed.

IV. Prepare Properly 1960 Major Construction Projects

The year 1960 is still a year of continued leap forward. Moreover, the scale of construction must be larger than 1959. We shall have thus a heavier task than in 1959 in the field of construction supplies and installation.

At this conference, various localities have brought forward many projects and demanded huge investments. Naturally the various provinces and municipalities need the projects they bring forward. But under existing conditions, we cannot attend to all of them within a single year. According to the plans put forward, each province wants four

large plants: a building machinery plant, a porcelain plant, a glass plant, and a cement plant. It is clearly impossible for us to construct so many plants in a year. The Ministry has brought forward certain key projects, and they may be slightly increased in accordance with the views and needs of various provinces and municipalities. Whatever final decisions may be, at the moment, we must immediately start preparatory work for these major construction projects.

We must first determine conditions for the construction of the plants. This is very important. At the moment, everybody is striving for projects. Actually, however, when projects are allotted, if the requisite conditions are lacking, we shall still not be able to undertake the job. Of course, we must also take into consideration regional and industrial distribution. The basic consideration, however, is still the availability of proper conditions for plant construction. These conditions include mineral resources and water supply, power supply, communications facilities, and transportation facilities. Detailed study is required in the choice of factory site, the size of the plant, and the stages into which construction is to be divided. Then, on the basis of these various conditions, we shall draw up a prospectus of the designing goal, before entrusting the job to a designing department. In a word, we must attend to this work in a realistic manner and acquire reliable data, to ensure that construction will be carried out more smoothly in 1960. At the same time, we must prepare certain designing items which should be considered reserve items. When necessary and possible, we may start their construction. With the development of national economic construction, the uses for non-metal materials grow more and more extensive. For this reason, in 1960, we must undertake more prospecting and designing work on non-metal minerals.

Second, in accordance with the principle of unified planning and control at different levels, we must give over-all consideration to, and undertake unified arrangements for, all construction and building materials industries. This should be done whether they are primary or secondary, large or small. The Central Government and the local authorities must enforce a suitable system for division of responsibility. Only by doing so can we avoid serious incidents of dislocation of efforts.

For example, the major building materials are cement, glass, asbestos, porcelain, and products made from these,

such as glass steel, glass fiber, and glass cotton. In addition, you have important products for our national defense industrial system, as well as important non-metal minerals. The Ministry of Construction and Engineering of the Central Government must consult provincial and municipal authorities on likely projects. Then the State Planning Commission must undertake unified consideration and arrangements. As to local materials, like bricks, tiles, sand, and marble, the quantities needed are large, and they cannot be transported over long distances. These therefore, must be procured locally, manufactured locally and used locally. So arrangements can only be made by the local authorities. In addition, local conditions may be taken into consideration for the production of new commodities. In certain important industrial cities, to coordinate the demands of the technological revolution in the construction industry, construction materials light in weight and strong in quality, such as light bricks and bricks made with ashes must gradually be developed.

At the same time, we must develop certain small industries, such as small modern cement works and small mines, the assembly of machine equipment, the manufacture of accessories, and repairs to industrial plants. This must be done to supplement the production capacity of our large modern plants.

Municipal construction should, in the main, be considered and prepared by local authorities in a unified manner. The construction and installation industry and the construction of major factory sites may be considered and prepared by the Ministry of Construction and Engineering and the National Construction Commission in a unified manner. Ordinary plant sites should be prepared by local authorities.

In the concrete compilation of capital construction plans and the decision on major projects, all plans must be placed before the State Planning Commission for unified balancing, and all plans must be approved by the Central Government before they can be considered finally determined.

Third, we must prepare for construction in groups and in stages. In order to assume greater initiative in capital construction, in the future, we must not rush all construction projects at once. Rather, we should carry them out in groups and in stages. On the schedule, we must have projects under construction and reserve projects. We must

regularly have one group under construction, one group in the design stage, and one group under survey. This will give us initiative in work.

In the construction of certain factories, we found a prominent defect, namely, failure to attend to mining operations properly. Mining has become a weak link in factory construction and we must strengthen this work. In building a factory, we must guarantee that the mine will start production one quarter ahead. Then, before production commences, we must have a reserve supply of ores sufficient for one month's needs. As Chairman Liu Shao-chi declared, "Mining is a big thing. It is the agriculture of industry, the front line in our fight against the earth. Metallurgy comes only second, and machinery comes third." "We must send the best political cadres and management cadres to the mines to take up machinery work. Let all of us develop the mineral deposits in a pleasant manner."

In building a new factory, our first concern must be the mine. Some comrades treat mines too lightly. They think that rocks and sand are everywhere to be found and can be used for the production of construction materials. This is incorrect. All kinds of construction materials put technical demands on minerals. The cement industry needs ores with 50 percent or more calcium content. A lower content will not do. The cement industry also needs a bismuth content of from 2 to 3 percent, and a higher content will also not do. The sand needed for the manufacture of glass also requires higher technical conditions. At present, although some plants under construction are nearing completion, no mines have been found for them yet. Take the case of the Yung-An Cement Works. It was thought that clay could be easily found, and no problem would arise. However, after analysis, the clay found originally did not meet technical demands. New clay deposits had to be sought, a shock efforts had to be exerted.

Again, non-metal minerals are found mostly in high mountain areas. Finding them is no easy task. The mica deposits at Tan-pa are more than 5,000 meters above sea level. The asbestos deposits of Szechwan are also found in the tall mountains. In both Sinkiang and Tsinghai there are rich mineral resources. To obtain one ton of asbestos, we must dig up 100 tons of rock. To obtain one ton of emery we must dig 470 million cubic meters of sand. Both prospecting and development are difficult. For this reason, we must pay

great attention to mineral development if we are to guarantee that a new factory, upon completion, can regularly maintain normal production.

In addition, at the moment, we must also make proper preparations for projects which will be started during the first quarter of 1960. We must make proper arrangements for labor, material supplies, equipment, and designing blueprints. We must see to it that capital construction work during the first quarter of 1960 will be fulfilled in a better manner than in 1959 to maintain a situation of continual improvement.

V. Improve Designing Work

Designing work holds the key to implementation of the principle of quantity, speed, quality and economy. The slightest defect in designing will lead to waste of funds and, at the same time, affect work quality. Thus, we must attach importance to designing work if we are to take up capital construction properly. During the past few years we have made great progress in designing work, and reported great achievements. Especially in 1958, spurred by the general line, we broke down superstition, achieved ideological liberation, fostered cadres, and brought designing work to a great step forward. We reversed the passive situation in which designing work could not catch up with construction.

In 1959, we carried out necessary supplementary education in designing. We went to newly-constructed factories and mines which had commenced production, and adopted the work methods of the mass line to solicit views for the revision of designs. In this way, we combined advanced experiences studied abroad with practical conditions in China. We may, therefore, say that present designing work is basically sound, and achievements constitute the main phase of the situation. However, this is not to say that there are no more problems. Our present major problems include heavy tasks, small force, inadequate experience, and an inability to design factories for many new products. The result is that designing blueprints have often to be revised, and diverse views arise from different quarters. Designing departments must continue to exert their utmost efforts, study humbly, and improve quickly.

Naturally, it is impossible to expect that not a single

revision is called for in each design. Nevertheless, we must strive to minimize revisions.

Another problem in designing work is our present inability to grip tightly the general line for socialist construction with exertion of the utmost efforts, pressing forward consistently, and achieving greater, faster, better and more economical results. Sometimes we tend to become one-sided. When economy is sought, quality is neglected. When attention is given to quality, economy may be neglected. After the Hangchow Conference, quality was stressed. Some buildings which did not need consolidation were consolidated, while those which did not have to be dismantled were dismantled.

The Loyang Glass Works, in 1958, completed a reeling workshop covering 10,000 square meters. In 1959, there was a desire to demolish it. It was said, "It is only worth 100,000 yuan, so it does not matter. We just reviewed the matter this year (1959) and that is the end to it." Does the person who said this still have a sense of responsibility? Comrades, 100,000 yuan is a large sum. If it were used for the purchase of grain, this building of ours (the present conference hall) could not contain that grain. If the building is demolished, there would not only be an economic loss, but an even greater political loss. The masses would take us to task for tampering with state property. We are here to discuss construction. We cannot afford to construct buildings every day only to demolish them every other day. If we make a mistake this time, we must take the lesson and correct it the next time. Buildings already constructed must be utilized as far as possible and should not be lightly demolished.

With reference to large, medium size, and small buildings, the designing departments always maintain that the larger ones are economical and the smaller ones are non-economical. We say that, where conditions allow, we may build large ones. Where conditions are not altogether favorable, however, and only small ones can be constructed, let us build small ones. In some areas, resources are limited and conditions are lacking for the operation of large plants. If we consider only large plants and do not attend to medium size and small plants, we shall not achieve speed. This is not compatible with the Central Government's policy of simultaneous operation of large, medium size, and small enterprises.

China is a country which is "first poor, and second deficient". Winning time and accelerating speed are, therefore, important considerations. However, if our ideological stand is not correct, we cannot achieve speed. We must consider these things in our designing work. We must help local authorities in the construction of medium size and small enterprises. We must not merely say that this will not do and that will not do. We must help local authorities solve the problem of what will do. Only thus, can we cope with the needs of the big leap forward in socialist construction.

Naturally, the different construction units must also provide full support to the designing departments. They must supply them with the needed designing data, and satisfy to the fullest the needs of designing work. Such mutual support and mutual assistance will lead to better performance.

VI. Implement the Party's Policy Of

"Walking on Two Legs"

Practice has proved the complete correctness of the policy of "walking on two legs" brought forward by the Central Committee of the Party. We must resolutely implement it. We must persist in the policy of using simultaneously native and modern methods, attending simultaneously to large, medium size and small enterprises, and having both the Central Government and the local authorities simultaneously attend to construction. Thorough implementation of this policy will result in quantity, speed, quality and economy.

After large modern cement works, due for completion in 1959 are thrown into production, the increased production capacity amounts to little more than 2.2 million tons. By the same token, during the first half of 1959, the 113 medium size and small cement works, constructed in different areas, have increased production capacity by 1,390,000 tons. There are, furthermore, 88 others nearing completion. These are expected to begin production toward the end of 1959, adding another 2.5 million tons to production capacity. These will begin production in 1960, with an individual average annual production capacity of 32,000 tons. These figures show that where small plants can be constructed

quickly, the increased production capacity is even greater than that from large plants, and investments are smaller.

In 1958, native cement played a great role in the development of water conservation in the fight against drought and in resistance to waterlogging. It is anticipated that during the coming winter and the spring of 1960 there will be another and larger mass movement for the development of water conservancy. As a result, large quantities of cement will be needed. Requirements will not be met if we do not attend to native cement production.

For this reason we must persist in the policy of "walking on two legs." We must combine native methods with modern methods, and attend simultaneously to large, medium size and small plants. In the future, on the one hand, we must continue to construct some small modern cement works. On the other hand, we must properly consolidate and elevate small modern cement works and small native cement works which have been constructed and are already in production. We will, thus, improve management, raise product quality, and reduce production costs. At the same time, through production practice, we must carry out a revision of the original defects in designing. In this way, the second group of small plants constructed will be more economical and more rational.

In the development of non-metal mineral deposits, we must also resolutely implement the policy of "walking on two legs". In addition to the development of large mines as backbone enterprises, we must also utilize seasons when farming is impossible to mobilize the masses to develop small mines. Since the big leap forward, the output of non-metal minerals has increased so rapidly due to the fact that we have implemented the policy of "walking on two legs". We must continue to do so in the future.

In the production of other local materials, such as bricks, tiles, sand and marble, we also have to "walk on two legs", to rely on the masses, combine native with modern methods, and carry out production extensively.

VII. Strengthen the Management of Capital Construction

Why do we bring up the strengthening of management? This is not because there was no management in the past. This was because capital construction is a very complex and important

economic task. In capital construction we must thoroughly implement the general line for the building of socialism, and fully develop the effects of investment. To do so, we must establish and perfect various management systems. The present conference issued ten documents on the strengthening of management in capital construction. Because time was short, they were not fully discussed. It is hoped that comrades of various departments (bureaus) and enterprises, on their return to their posts, will organize relevant departments to carry out discussions, bring up views before the Ministry. In this way, that body can take into account the views of all to formulate regulations for enforcement.

Some units suspected that the establishment of regulations and systems may affect activism in work. Such fears are unnecessary. A system is drawn up in accordance with working needs, and it reflects objective realities. If, in the future, we discover problems in practice, there may be further revisions. A system guarantees smooth and normal progress of work. It should definitely not affect working activism.

On the basis of certain problems discussed at the conference and which exist in our work, we bring forward the following views on the strengthening of management in capital construction.

First, we must stress doing things in accordance with the schedule for capital construction. Without surveying, there must be no designing. Without designing there must be no construction. This is an objective law. Working in accordance with this law will lead to quantity, speed, quality and economy. Otherwise, there will be waste or even great loss.

Second, there must be a management system for capital construction. This system should include planning management, technical management, and financial management. At present, some construction units are vague over three things: vague regarding personnel, vague regarding funds, and vague regarding progress. They do not know the amount invested in capital construction; they do not know what personnel have been trained; and they do not know when their plants can begin production. We must, therefore, strengthen management work and establish and perfect needed regulations and systems. We must overcome certain states of confusion and lack of responsible personnel.

Third, capital construction personnel must be specialized.

This is an important point which plays a great role in the fulfillment of capital construction tasks. Let us attend to the second plant after the first has been completed, and our experience will gradually grow rich. Familiarity breeds skill, and the next job will be accomplished with greater quantity, speed, quality and economy. Capital construction cadres must be provided in whole groups. Moreover, those connected with equipment, raw materials, planning, financial matters and construction must be specialized. The chief of the Preparatory Construction Office and the secretary of the Party committee must be full time appointees. The set up can be likened to a play. Only when all the cast is complete can we put on a good show.

The state's capital construction is expanding daily. We must have an experienced capital construction force if we are to do a superior job. Some people feel that, after working hard for two or three years, they do not want to move to a new job. This feeling is quite understandable. However, this is an individual problem. In the interests of the state as a whole, it is better for personnel to be specialized.

There should also be a specialized force in the installation field. Today some newly constructed plants do not possess installed equipment of good quality. This is due to the lack of a specialized installation force with installation experience. In the future, the installation company of the Ministry must give support to places weak in this field. It is suggested that all provinces and municipalities will establish specialized installation forces. After some time, with the accumulation of experience, the quality of equipment installation will improve.

In addition, the provinces and municipalities have suggested the formation of a geological squad. This is also necessary. In any construction project, without a geological report, the designing institute finds it hard to carry out designing. As a result, construction work cannot be launched.

Although the major task of geological prospecting will still be carried out by the Ministry of Geology, nevertheless China has rich deposits of non-metal minerals. With the development of construction, many places have been prospected. Thus, it is difficult to rely merely on the Ministry of Geology. However, if we ourselves establish a geological prospecting force, we can supplement the ministry's work. The task of our geological force is to supplement the deficiency

of the Ministry of Geology, satisfy our designing needs in good time, and carry out prospecting work of a productive nature. When we have our own force, work can be speeded. We shall thus avoid delays in construction caused because geological work cannot keep pace with it.

VIII. Strengthen Party Leadership, Develop Production

Increase and Economy Movement

Strengthening the leadership of the Party is most important. Capital construction is heavy, covers wide ground, and the work is concrete. If we fail to see the whole situation, we may easily fall into the abyss of departmentalism. So we must continually educate our cadres, and bring about their political and ideological awakening. We must persist in letting politics assume command, rely on the leadership of the Party, and fully mobilize the masses. Only by doing so may we do a good job.

The system of responsibility assumed by the Works Manager (chief) under the unified leadership of the Party committee, is the basic leadership system in our enterprise. All capital construction units must implement this system thoroughly.

The Eighth Plenum of the Eighth Central Committee of the Party has issued to all of China a great call for fulfillment within 1959, three years ahead of schedule, of the major targets of the second Five Year Plan. This call includes an appeal for catching up with Britain in the output of major industrial products, in about ten years. Capitalist construction departments must strive to accelerate the speed of construction, and more rapidly build more and better factories and mines, to guarantee the realization of this great call of the Party.

Accordingly, we must earnestly implement the spirit of the Eighth Plenum of the Eighth Central Committee of the Party, oppose rightist thinking, exert utmost efforts, and more extensively and penetratingly develop a mass movement in increased production and economy, to strive for the overfulfillment of capital construction plans for 1959.

GRASP THE SITUATION TIGHTLY AND ATTEND PROPERLY TO
PRODUCTION AND CAPITAL CONSTRUCTION IN
SMALL MODERN CEMENT WORKS

The following is a full translation of an editorial in Chien-chu Ts'ai-liao Kung-veh (Construction Materials Industry), Peiping, no 20, 22 October 1959, pp 15-17.

The Eighth Plenum of the Eighth Central Committee of the Party issued the great call for opposition to rightist thinking, exertion of utmost efforts, vigorous promotion of the movement for increased production and economy, striving for the fulfillment and overfulfillment of the 1959 leap forward plans. This call included an appeal for advanced fulfillment of or approach to the major targets of the second Five Year Plan during 1959, and advanced realization, in about ten years, of the plan to catch up with Britain in the output of major industrial products. This has stimulated the zeal of the working people throughout China for building socialism. It has also greatly stirred the entire body of workers of China's cement industry.

These cement industry workers have brought forward the following combat slogans: within 1959, (1) strive to fulfill, three years ahead of schedule, or approach the cement production targets laid down in the second Five Year Plan and, (2) strive to catch up with or approach the cement output of Britain. These workers have brought into existence a new high tide of vigorous movement for increased production and economy. Everyone of the broad masses of workers is in high spirits. Everyone is full of fighting spirit. Everyone is marching courageously toward a gigantic goal.

Since the big leap forward of 1958, we resolutely carried out the policy of taking up a whole series of measures, of "walking on two legs," with simultaneous operation of large enterprises and medium size and small enterprises, and simultaneous use of modern methods and native methods.

Under the direct leadership of Party, committees in all areas of China have alunched a vigorous mass movement for the development of the cement industry. Within a few months,

we created a situation in which flowers blossom everywhere, in which the cement industry achieved flying development. In 1958, the country established more than 70,000 small native cement kilns (and more than 9,000 small native cement factories which produce more than 1,170,000 tons of cement. This factor played an important part in guaranteeing farmland water conservation and in developing various people's communes construction projects.

Since 1959, various areas have earnestly implemented the policy of "overhauling, consolidation and elevation", and adopted the "five fixed" method in carrying out the overhauling of small native cement works. After this overhauling the majority of small native factories have been transformed into cement works using modern production methods or combining native methods with modern methods. Industrialized production is gradually being realized.

Statistics to the end of August show that China's small modern plants produced more than 460,000 tons of cement. Small native plants (including some plants combining native and modern methods) also produced more than 1 million tons.

Today, in China, small modern cement plants already engaged in production and under construction total more than 400. When all these small modern plants begin production, their annual production capacity will approach 50 percent of the annual production capacity of all existing large and medium size modern cement works. There is no doubt that this is a powerful new force on the cement industry front. These small modern cement works distributed all over China, together with the large and medium size modern cement works, have constituted a nationwide cement industry network.

The practice of the past year or so fully proves the following: Construction of small modern plants is completely in conformity with the policy of quantity, speed, quality and economy as it possesses the superior points of small investment, rapid construction, wide distribution, easy acquisition of equipment, economy of steel products, easy availability of supplies of raw materials and fuel, facilities for rational distribution of production power and extensive utilization of resources, and economy of transport facilities.

In the first stage of development, there were problems such as excessive personnel, high cost, and lack of consistent quality. After overhauling, we improved our labor or-

ganization, raised work techniques, and strengthened our enterprise management. This solved our problems. All in all, in 1959, the quality of cement has been rapidly rising.

Cement produced by small modern plants are generally graded number 300 and above. Most of this cement possesses great stability of quality. In Hopei Province, during the first half of 1959, small modern plants produced a total of 36,321 tons. Of this, 97.9 percent was graded number 300 to 400. Of the 54 kilns in the province in production, the proportion of acceptable semi-finished materials reached 90.5 percent. Only about 2.6 percent was found lacking in stability. All cement leaving the plants met satisfactory standards. Labor efficiency has been gradually raised, while use of manual power has been reduced by more than 70 percent. Production costs have been reduced to a marked degree.

In 1958, the cost of a ton of cement from a small native works was roughly 150 yuan. In individual cases it might run as high as 300 yuan. At present, the cost per ton is generally about 90 yuan from small modern (native) cement plants. Some plants have reduced the cost to about 60 yuan. After further overhauling and elevation for the next year so i.e. during 1959 and 1960, it is possible that the small modern plants may approach or catch up with the levels of large modern plants in quality, cost and labor efficiency.

The above conditions show that, since the big leap forward, small native plants and small modern plants have made important progress in production. They illustrate also how small modern plants have made important progress in capital construction. This demonstrates the complete correctness of the general line of the Party for socialist construction and the policy of "walking on two legs."

Though we have made great progress in our work, cement production at the moment is still far from meeting the needs of a continued leap forward in our national economy. Development of production and capital construction of small modern cement works have not been balanced. We still must raise quality and greatly reduce cost.

Particularly after June 1959, the rightist mentality of relaxation grew among a small number of cadres. They failed to grasp tightly production and capital construction of the small modern plants. In individual areas, in the course of overhauling, there were deviations and excessive withdrawals.

Some factories which possesses the conditions for production and which could have been reorganized for production, were closed down. There was also insufficient concern for, and support of small native works operated by people's communes. Reasonable arrangements were not made for production on the basis of local needs. This must all be improved and overcome in our future work.

After the Eighth Plenum of the Eighth Central Committee of the Party, the leadership at all levels in different localities earnestly studied the communique and resolution of the plenum. This leadership inspected and criticized lax rightist thinking, and paid greater attention to the production and capital construction of small modern cement works. Spurred by the Plenum of the Eighth Central Committee, the broad masses of the workers of small modern cement works also promoted a vigorous movement for increased production and economy. This is most favorable to our fulfillment and overfulfillment of production and capital construction tasks for 1959.

However, we must also realize that our task in 1959 is still formidable. Small modern cement works have to fulfill during the fourth quarter of 1959 more than 50 percent of the production task for the whole year. Many newly constructed plants must also intensify construction if they are to commence production before the end of 1959. All small modern cement works must fulfill and overfulfill their production and capital construction tasks for 1959 if they are to realize the imposing slogan of "fulfilling or approaching within 1959 cement production targets laid down in the Second Five Year Plan and striving to catch up with or approach the cement output of Britain within 1959." This they must likewise do if they are to create good conditions for a continued leap forward in 1960.

For this reason, leadership at all levels, in all localities, must further strengthen the production and capital construction of small modern cement works. Our leadership must continue to seek out and overcome rightist thinking, mobilize the masses, and grasp fully key problems in production and capital construction. This will enable them to push forward the movement for increased production and economy movement from one high tide to another.

First, in combination with the study of the documents in the Eighth Plenum of the Eighth Central Committee of the

Party, we must thoroughly criticize lax rightist thinking. We must mobilize the masses to draw up new plans for increased production and economy on the foundation of guaranteed fulfillment of the original production plans of the state. We must enjoin all enterprises to take as a basis their actual capacity in bringing forward the data for advanced fulfillment of the original production plans. This figure will also enable them to determine excess production after fulfillment of the original plans, and targets for increase production and economy connected with major technical and economic quotas (including quality, cost, equipment utilization rate, and labor productivity).

The new plans for increased production and economy must be well within reach, and definitely realizable with proper effort. Thus, we must not merely bring forward target figures, but also draw up realistic, reliable, concrete and effective measures to guarantee realization of these target figures. After full discussion by the masses, these new plans for increased production and economy should be made actual goal of struggle for the industry. We must strive to guarantee their fulfillment and overfulfillment.

To ensure fulfillment and overfulfillment of new plans for increased production and economy, all enterprises must further draw up work plans by the day, by the ten-day period and by the month, on the basis of production conditions at various periods. They must also make concrete arrangements for daily production in various workshops, shifts and teams. These will then become concrete goals of struggle for the masses daily and hourly. They may thus exert the utmost effort, mobilize all active factors, and adopt all effective measures, to guarantee the fulfillment and overfulfillment of plans for increased production and economy.

Second, we must improve our production techniques and our management of enterprises, and fully develop the production potentials of existing small modern cement works. According to statistics as of the end of August, throughout China more than 350 small modern cement plants are engaged in production. Their annual production capacity is more than 2,200,000 tons. However, at the moment, the utilization rate of our equipment is only about 30 percent while 70 percent of our production capacity has not yet been developed. This is a major problem for us. It is also a favorable factor for the victorious fulfillment of the 1959 plan for increased production and economy. In order to develop fully our pro-

duction potentials, we must first strengthen technical leadership. We must emphasize the development of mineral deposits, the use of ingredients, and sintering and grinding processes. We must formulate technical work rules or technical pointers, strengthen analysis, inspect machinery, augment analysis and inspection personnel, acquire analysis and inspection equipment, and energetically develop analysis and inspection work.

In Honan Province, the construction departments and the water conservancy departments have organized a unified analysis and inspection network. They have established analysis and inspection stations in different areas and laboratories in different enterprises. The experience is most satisfactory and other areas may follow suit.

We must next establish first hand records by grasping tightly work plans, and decide on quotas for the consumption of raw materials and use of manpower. Starting with these basic tasks, we may gradually establish and perfect a system of technical management, planning management, and cost management.

We must further strengthen the maintenance, inspection and repair of equipment, and develop fully the capacity of existing equipment and raise the rate of its utilization. The equipment of small modern cement works is inferior in quality and suffers depreciation rapidly. If attention is not paid to maintenance, inspection and repair, normal turnover of the equipment will be affected, and the output and quality of cement lowered, and suspension of operations may result. Accordingly, all enterprises must actively devise ways and means to establish teams for the maintenance, inspection and repair of machinery. They must carry out regularly inspection and repair work, continually raising the standards of repairing.

In addition, the various kinds of accessories required for the maintenance and repair of equipment must be looked after. Plans must be brought forward at an early date to request the people's councils of various provinces, municipalities and autonomous regions, as well as planning committees to unify arrangements for their manufacture.

We definitely must not overlook active improvement of the supply and transportation of raw materials and fuel. Unified arrangements must be made for the supply of raw

materials and fuel for small modern plants (including those operated at special administrative district and hsien levels). We must gradually establish adequate cooperation relationships for supplies, to guarantee normal production by small modern cement works.

Third, we must attend closely to capital construction for small modern cement works. This is a "strategic" measure for the rapid development of our cement industry. Leadership at all levels in all areas must give this matter sufficient attention and grasp this task tightly. We must undertake engineering arrangements on a foundation of rational distribution (the definite choice of factory sites) and in accordance with concrete conditions relating to equipment and material supplies. This will lead to concentrated manpower, material resources, and financial resources and guarantee the smooth completion of these plants under favorable conditions. In this way, they may commence production at an early date.

At the same time, we must grasp tightly the manufacture and assembly of whole sets of equipment, and strengthen ties among different manufacturing departments. On the one hand, we must urge manufacturing departments to deliver goods as soon as possible. On the other hand, we must control the time situation in the delivery of the goods and carry out unified assignments and allotment of odd pieces of make up whole sets. All units must fully develop the socialist spirit of cooperation, give what one has to one who has not, mutually support one another, and jointly guarantee fulfillment of the 1959 capital production tasks.

Fourth, we must continue to overhaul and elevate small native cement works and small modern cement works. In some areas, overhauling started only in the spring of 1959. This activity was soon suspended because no proper arrangements were made for the task. In these areas, overhauling work must be earnestly continued. Particularly in the case of small modern works which have been carrying out production all year round, we must overhaul them in accordance with the principles of the three reliances (reliance on nearby resources, reliance on nearby power supply and reliance on nearby communications facilities) and the three local expediences (acquisition of raw materials locally, production locally and consumption locally). It would be best if operations could be coordinated with work on the work sites of small modern iron and steel plants.

Small native cement works of the people's communes which operate for a time and suspend work for a time must be overhauled as necessary. This must be done according to local needs and production factors. We must help them rationally arrange for production, and regularly give them technical guidance for the improvement of production tools and elevation of labor efficiency. This will enable them to produce better results. As to small native works with better resources and a future for development, as far as possible we must actively raise their technical levels and promote their transition into small modern plants.

Fifth, we must strengthen concrete leadership and establish a normal system for linking up different tasks. The leadership of the construction departments (bureaus) of various provinces, municipalities and autonomous regions must possess a timely grasp of the conditions relating to production and capital construction of small modern works. Our leadership must analyze major problems existing in the work, summing up and interchanging experiences, and effectively helping the enterprises to seek improvement.

Particularly with reference to those enterprises with a heavy production task, with inferior work conditions, and with many difficulties in operation, we must strengthen leadership over them. We must pay attention to the fostering of models, and establish advance units to push forward normal units. We must establish a regular system for the coordination of work among all small modern plants (including those plants directly under construction departments (bureaus) of provinces, municipalities and autonomous regions and those led by special administrative districts and hsien). Production conditions must be jointly reported at fixed intervals. Timely special reports must be made on major problems of production, major advanced experiences and major advanced achievements. Leadership at all levels will thus be able to grasp the situation in good time, assist in the solution of problems existing in production, and undertake timely interchange and popularization of advanced experiences.

Only one quarter of 1959 remains. This is the quarter of the decisive battle which will decide whether we can overfulfill the 1959 production plans, whether we can fulfill or approach three years ahead of schedule the cement production targets of the second Five Year Plan, and whether we can catch up with or approach, within 1959, the cement output of Britain. Leadership at all levels, in all localities and

small modern cement works and small native cement works must grasp the opportunity, mobilize all positive factors, and further develop penetratingly and extensively the movement for increased production and economy, strenuously struggling for realization of the gigantic goal we have brought forward.

VIEWS ON ACHIEVEMENTS, EXPERIENCES AND IMPROVEMENTS

IN OVERHAULING SMALL CEMENT WORKS

IN HOPEI PROVINCE

The following is a full translation of an article by PAI Ching-ch'ang in Chien-chu Ts'ai-liao Kung-yeh (Construction Materials Industry), Peipong, No 20, 22 October 1959, pp 18-20.

During the big leap forward of 1958, Hopei Province constructed a large number of small native and small modern cement works, in accordance with the policy for walking on two legs brought forward by the Central Committee of the Party. In 1959, in accordance with resources, conditions and needs, we carried out a series of measures for the overhauling, consolidation and elevation of these small cement works, in keeping with the demands for the "five fixed", "three conversions" and "one inspection" principles.

Finally, these were merged into 37 plants (2 plants of 100,000 tons, 2 of 50,000 tons, 10 of 32,000 tons, 4 of 20,000 tons, and 19 of 10,000 tons), with a total annual production capacity of 890,000 tons. At present, 19 plants have been basically completed, with an annual production capacity of 498,000 tons. The work of equipment installation is being carried out in the remaining 19 plants. They are expected to commence production toward the end of 1959.

We solved many problems and made a great deal of progress through the overhauling, consolidation and elevation processes. The major experiences and achievements are as follows:

(1) We concentrated the use of investments and solved the problem of the supply of equipment, and guaranteed the construction of key projects. After overhauling, consolidation and elevation, the small native cement works in Hopei Province very rapidly were transformed into semi-native and semi-modern plants. We also have a group of small modern plants. The 19 plants of 10,000 tons each were the result of the merger of scattered small native cement works. Their equipment include 1.2 x 4.37 meter grinding machines and

pneumatic machines.

(2) We reduced production costs and raised labor productivity. Through overhauling, consolidation and elevation, the majority of the small modern cement works have been brought nearer the centers of resources. We raised the level of mechanization so that production costs were lowered and labor productivity raised.

Take the example of a 10,000 ton cement works. Production costs have been reduced from 100-200 yuan to 60-70 yuan. For a 32,000 ton works, if the site has been rationally chosen, the production cost of cement is 45-54 yuan. As to labor productivity, calculated at the rate of employing 11,000 workers for 37 plants, each worker produces about 80 tons of cement a year. Compared with the record of small native plants, we are saving a great deal of manpower. In addition, labor productivity has been greatly raised.

(3) We concentrated control of cadres and technical forces, and solved the problem of equipment for analysis. Thus, we rapidly surmounted the difficulty over quality. At present, cement from 21 plants entirely satisfy tests for stability. Moreover the quality of the cement reaches grade numbers 300 to 400.

(4) We solved the problem of the unification of the control of the overall situation, enabling the policies and measures of the Party to be carried down promptly to the lower levels. In addition, we facilitated the organization of cooperation and interchange of experiences.

Through overhauling, consolidation and elevation, small cement works in Hopei made great progress and acquired certain experiences.

I. Rational Distribution

Whether the distribution of cement works is rational should be analyzed on the basis of technical and economic conditions governing the construction of the plants. The primary condition for rational distribution is proximity to resources, with limestone and clay available within two kilometers, and the cost of limestone less than four yuan a ton.

Next in importance are communications facilities. A

factory of 32,000 tons and above must be near a railway station (within 0.5 kilometer). A 100,000 ton plant should be served by a special railway. Cost of construction of the railway should be less than 250,000 yuan.

In the third place, evaluation must be carried out with joint consideration of such conditions as power supply, water supply, investment and other factors (engineering, geology, flood, underground minerals, and industrial cooperation.) According to a preliminary estimate, plants which satisfy this requirement should cost, per ton of production capacity, as follows: a 100,000-ton plant with mechanized vertical kiln, from 40 to 50 yuan (standard designing cost 45 yuan); a 10,000-ton plant, 60-70 yuan. The overwhelming majority of plants in Hopei Province meet the above requirements. Distribution is, therefore, rational.

Some plants are not intelligently located. In short, they are often too far from resources. Both limestone and clay deposits are sometimes more than 10 kilometers away (referring to transport by motor vehicle or horse cart), and the cost of limestone is more than seven yuan a ton.

Apart from the lack of experience, a small number of cement plants are not rationally located. For example, some localities selected sites on the basis of administrative area demarcations and administrative units. Some people also consider that building a cement works in a city will increase the industrial ratio of the city. They feel that it will facilitate control because it is near the leadership. However, in the long range view, these irrationally located plants must be gradually adjusted and merged.

II. Equipment and Installation

The small modern cement plants of Hopei Province have major machinery and electrical equipment weighing a total of from 5,500 to 6,000 tons (not including the weight of ball bearings (kung-ch'iu). Viewed from the weight of the machinery and the electric power consumed, the state of mechanization of small modern cement works in Hopei Province cannot be considered low. With the exception of the grinding machines, the quality of all machinery and electrical equipment is generally good.

The grinding machines used in the small modern cement

works of Hopei Province are principally of three types: $\phi 1.2 \times 4.37$ meters; $\phi 1.83 \times 6.1$ meters; and $\phi 1.5 \times 4.1$ meters. The first two types are more universally used. The $\phi 1.2 \times 4.37$ meter type was designed with a capacity of 7.5 tons of cement per hour. It was adopted in the designing of vertical kiln cement works with an annual output of 32,000 tons. The $\phi 1.83 \times 6.1$ meters type was designed with a capacity of from 1.2 to 1.5 tons of cement per hour. It was adopted for cement works with an annual output of 10,000 tons.

These grinding machines were all manufactured by machine building works in various municipalities and special administrative districts of Hopei Province. Because these manufacturing works still lack experience in the field, the machines produced have certain defects. In the structure of the $\phi 1.2 \times 4.37$ machine, a head valve is lacking. Bearings equipped with a head valve can automatically adjust certain defects in manufacture or installation. As a result, pressure on the bearings will be evenly distributed. Cooling devices may also be inserted inside the valve so as to dissolve the heat of the bearings. When there is no head valve, and when the bearings at the extreme ends are not correctly placed, pressure on the bearings will be greater in some portions, and heat will be radiated. Accordingly, we must consider replacement of unbalanced bearings with bearings balanced with head valves.

The large gears of the $\phi 1.5$ and 4.1 meter grinding machine are made of iron. The gears are not further processed to a fine degree. The mold number is 14, the width of the gear is 300 millimeters. According to this width, the gears should go through reprocessing to a fine degree. After installation, at the start it can be worked with a 50 percent load. If conditions relating to rotation are satisfactory, the load may then be increased.

Before leaving the factory, products should be further checked with the original designing unit, to verify materials prescribed in the original designs, and, if necessary, to decide on measures for improvement before further manufacture is continued. If the original design calls for steel in the tip of the grinder, but in manufacture, iron is used instead, the load should be reduced by from 30 to 40 percent in operation (appropriate changes in the load to be carried out on the basis of conditions found in operation). If the structure for the oiling of the main shaft is not rationally constructed, and the holds of the sieve of the insulating board

are too large, corrections should be made at the factory.

Eight of the tips of the grinders of the $\phi 1.83 \times 6.1$ meters grinding machines are made of iron. In addition 14 large gears and eight small gears are made of iron. According to the original design, all these items should have been made of steel. When iron was used instead, the sizes were not proportionately enlarged. According to initial calculations, the strength has been reduced 40 to 50 percent. If they are operated at full load, these parts will suffer damage. The load should, therefore, be reduced to 50 to 70 percent. In addition, conditions relating to rotation should be inspected constantly, to guarantee safety. To develop fully the designed capacity of these machines, the parts made with iron should be changed into steel as originally designed. If iron is still used, the sizes must be enlarged on the basis of calculations made.

The sides of all large and small gears of the grinding machine should be cut with machine tools. However, if they are not processed to a fine degree, the spaces separating them will not be even. Contacts made by the gears will not be smooth. Rotation will cause great vibration and the life of the machine will be affected.

We must reprocess these parts and repair them to perfection. The general demand is that the surface of the gears touching others should constitute 60 percent of their area, and the projecting part 20 percent. We must also grasp tightly and solve defects relating to the incorrect measuring of rotating shafts, and imperfect soldering of tungsten valves.

According to the experiences of Hopei Province, in the course of the overhauling, consolidation and elevation of small modern cement plants, we must strengthen work in the manufacture and installation of equipment. In the manufacture of equipment we must strictly control quality. The quality of equipment leaving the manufactory must conform with demands. For key plants, supplies are best made in whole sets.

In the installation of equipment, we must also be strict in our demands for quality and necessary system for the inspection of equipment being delivered. To ensure that equipment is installed properly and quickly, we must strengthen our organization and leadership. Special administrative districts should be made centers for unified assigning of

manpower and tools. In accordance with quality demands in installation, one or two plants should have equipment properly installed to serve as models. The points thus established will be used as examples for the surrounding area. In this way, installation techniques will be improved within a short time.

III. Production Craft

I. In the Field of Powder Grinding

In Hopei Province, many small modern cement works possess grinding capacities not in keeping with their firing capacities. In addition to increasing grinding equipment, we should adopt the following measures to raise the output of ground powder:

(1) Selection must be made as to the appropriate rations of compounds to be ground. With reference to general principles governing ingredients for grinding, we may consult the article in Chien-chu Ts'ai-liao Kung-yeh, No. 14, 1959, page 12, entitled, "Existing Problems Concerning Globular Grinding Machines of Small Modern Cement Works and Suggestions for Improvement." In addition to compounding ingredients in accordance with the general principles discussed in the article, we must also take into consideration concrete conditions relating to the grinding machines of individual plants, and go through various experiments to decide on the most appropriate ration of compounds to be used.

(2) Control of the crystals of materials entering the grinding machine. These crystals must not be too large, as this will affect the output of the machine. For small-sized grinding machines, the crystals being fed should, in general, be smaller than 20 millimeters. Under some conditions, the smaller the crystals, the better.

(3) Control of the water content of material entering the machines. When the water content is too high, the sides of the grinding machine will become caked with the materials. Movement will be slowed and grinding efficiency reduced. The water content of materials should, in general, be less than two percent. To prevent materials sticking to the grinding machine, we can also add from 1.5 to 2 percent coal dust. This will aid in raising the output of the grinding machine.

(4) Strengthen ventilation in the grinding machine. In addition to raising the output of the grinding machine, strengthening of ventilation facilities will produce the following advantages:

- (a) capacity to grind materials with higher water content;
- (b) reduction of the temperature of the grinder, the container and the shaft valves, to prolong the life of the machine;
- (c) reduction of materials sticking to the machine; and
- (d) reduction of the spread of powder dust, to improve hygienic conditions in the workshop.

Generally, grinding machines in the small modern cement works have natural ventilation. However, we can adopt measures to strengthen ventilation through the use of expanded outlets for ventilation tubes and by raising of the height of ventilation tubes.

(5) Increase the rotation rate of the grinding machines. The rotation rate of grinding machines in some small modern cement plants does not always reach the number designed. For example, in the original design for the $\phi 1.2 \times 4.73$ meters grinding machine, motion is begun by the triple belting of a motor. Some factories, however, do not have electric power generators, and motion must be begun with the plain belting of locomotives. The rotation rate of the locomotives is not sufficiently high moreover, the belting is slippery. The result is that the rotation of the grinding machine reaches only from 70 to 90 percent of the designed number, and the output of the grinding machine is affected. The best method is to use an entire length of triple belting, not plain belting nor triple belting with joined sections, to raise the rotation rate to the designed number. For calculations on the most appropriate number of rotations, consult Chien-chu Ts'ai-liao Kung-yeh, No. 14, 1959, page 22.

(6) Raise the turnover of the grinding machines. Because of the lack of stock and inadequate work in the maintenance of equipment, some small modern cement works have turnovers of their grinding machines reaching only from 60 to 70 percent of the designed figure, while some have even a lower turnover. All small modern cement works must provide adequate stocks of accessories and strengthen the maintenance of equipment to raise the turnover of the grinding machines.

II. In the Field of Calcination

(1) Wind Pressure and Wind Volume of Penumatic Machines.

Whether or not the wind volume and wind pressure are appropriately selected greatly affects the output from a vertical kiln. In small modern cement works, manual power is generally used in loading and unloading materials at a vertical kiln. Conditions relating to the opening and shutting of the kiln are not well controlled. If the penumatic machine has too great a wind pressure and too small a wind volume, not only will output be reduced a fall below the designed quota, but there will be serious wind leakage leading to high electric power consumption. The following table gives appropriate figures for wind pressure and wind volume for pneumatic machines for vertical kilns of different specifications, for reference:

diameter of kiln (meters)	height of kiln (meters)	wind pressure (mm/ spout)	wind volume of blower (cu.m/ minute)	output of kiln (ton/ hour)	motive power for pneumatic machine (h.p.)
1.3 - 1.6	5 - 7	500-600	65 - 85	1.0 - 1.35	20 - 40
1.6 - 1.8	7 - 8	600-800	85 - 115	1.4 - 2.0	40 - 60
1.8 - 2.0	8 - 9	800-1000	115 - 135	2.0 - 2.5	60 - 80
2.0 - 2.5	9 - 10	1000- 1500	140 - 165	2.5 - 3.0	80 - 110

Every three to six months, we must inspect the wind pressure and wind volume of the pneumatic machines. In determining wind volume, the wind velocity measurement instrument must be placed at the point of the entry of the wind (not at the point of outlet) to find the average velocity (V). Wind volume is then calculated according to the

following formula:

$$M = AV - 0.785D^2V$$

M being the wind volume, Cubic meter per minute;

A being the area of the entry point of the wind; and

D being the diameter of the wind pipe.

In the determination of wind pressure, a U shaped tube containing mercury may be placed one meter or more away from the outlet of the penumatic machine. The distance of the two surfaces of the mercury (in millimeters) multiplied by 13.6 will give the wind pressure in millimeters per spout.

The penumatic machine must not be placed too far from the kiln, and the wind pipe must be short. The diameter of the pipe should not be smaller than that of the outlet of the machine. If the pipe is too small, loss of wind pressure will be increased. In some kilns, the diameter of the wind pipe at the bottom is between 250 and 300 millimeters. We feel this can be increased from 300 to 450 millimeters. Wind pipes should not be built with bricks, because under high pressure, there will be greater wind leakage.

(2) Vertical Kiln Operation

(i) When the vertical kiln is first lighted, attention should be given to heating the kiln. The fire used must not be too strong or the kiln is liable to crack.

(ii) When working the vertical kiln, medium ventilation inside the kiln must be preserved. Otherwise, such phenomena as the formation of clots and burning of the kiln may result.

(iii) We must have definite reserves of raw materials. The Hu-Lu Cement Works had only raw materials for two kiln loads, but have to calcine four kiln loads. While waiting for raw materials, work on the kiln has to be suspended daily for six to twelve hours. The rate of production of semi-finished materials dropped from 82 to 76 percent, and coal consumption was large.

(iv) Unloading of materials should be carried out at the rate of from 0.3 to 0.5 meter each time. The Hu-lu Cement

Works each time unloaded from 1.0 to 1.5 meters even up to 2.0 meters. This affected the position of the calcination belt, so that the fire at the bottom could not rise to the required height for a long time, leading to a reduction of output.

(v) Some small modern cement works still consume too much coal. Coal and raw materials should be thoroughly mixed. Coal crystals should be reduced to less than five millimeters and wind volume and wind pressure should be raised at the same time, maintaining an even ventilation of the cross section, and improving operations at the vertical kiln, to reduce coal consumption.

(vi) The rate of acceptable semi-finished materials produced is not high. If we can adopt the basin-type ball making machine or the tubular ball making machine, and control the crystals at the level of from 5 to 20 millimeters, it is estimated that output from a vertical kiln can be raised from 20 to 30 percent.

(3) In the Field of Inspection and Analysis.

Small modern plants with a capacity of 32,000 tons and above can generally carry out overall chemical analysis. Some of them have equipment for the testing of resistance power and reaction to pressure. Plants of less than 20,000 tons can all carry out acid titration and simple tests of strength (the ball hitting method). But the analytical personnel are still not yet sufficiently skilled in their technical work. The system for the control of production is not sufficiently perfect. The scope of responsibilities has not yet been clearly ascertained. All small modern cement plants should have the necessary inspection and analysis staffs and equipment. At the same time, they should operate training classes or adopt other measures to raise the technical levels of existing inspection and analytical personnel. Measures must be strengthened for the protection and management of such valuable instruments as platinum crucibles and analytical scales, to fully utilize existing equipment. In addition, they must strengthen the role of the laboratory in the control of production, clarify the scope of its responsibility and ascertain control targets for quality to ensure the elevation of quality.

The Eighth Plenum of the Eighth Central Committee of the Party has issued a combat call to all people in China.

We, the whole body of workers on the cement industry front, are exhibiting incomparable zeal to guarantee fulfillment or near fulfillment, within 1959, of the cement production target of the second Five Year Plan. In the fulfillment of this glorious and colossal task, the small modern cement works will play an appropriately important role. Hopei Province has made great progress and accumulated rich experiences in the overhauling, consolidation, and elevation of small native and small modern cement works. We have put this progress and these experiences to good use. We have also brought forward certain ideas for improvement. These are offered to all localities for reference.

THOROUGHLY OPPOSE RIGHTIST THINKING, EXERT EFFORTS TO THE
UTMOST, FIGHT FIERCELY IN NOVEMBER TO GUARANTEE FULFILLMENT
OF THE 1959 PLAN FOR INCREASED PRODUCTION AND ECONOMY

/The following is a full translation of the address of
Liu Hsiu-feng, Minister of Construction and Engineering, to
the National Construction Materials Production Conference, as
published in Chien-chu Ts'ai-liao Kung-yeh (Construction
Materials Industry), Peiping, No. 21, 7 November 1959, pp.
5-8.7

Comrades:

Today is the day of the opening of the National Confer-
ence of Heroes. Convocation of a telephone conference on
production is of great significance at this juncture. The
major concern of this telephone conference is how to exert
the fullest efforts for fulfillment of the 1959 task of in-
creased production and economy. I shall speak on a few ques-
tions related to this subject.

Ever since the Eighth Plenum of the Eighth Central Com-
mittee of the Party issued its call for opposition to rightist
thinking, exertion of utmost efforts, and development of a
mass movement for increased production and economy, there has
appeared throughout China a new situation of vigorous produc-
tion and construction, an over all leap forward. New vic-
tories have been won on all economic fronts.

Like the general situation in China, the situation re-
lating to our production of construction materials is very
good. Various enterprises criticized rightist thinking,
roused working zeal, and very quickly brought into being a
new high tide of increased production and economy. We reversed
the downward production trend which occurred in June and July.
There has appeared a new situation in which production be-
comes higher month after month, and each ten-day period higher
than the preceding ten-day period.

The figures for August were higher than those for July.
In September the achievements were even greater. The average
daily output of both cement and glass has created unprecedente

records. The large and medium size cement works had an average total output of 31,400 tons, while that for the last ten day period of September was 36,000 tons. Moreover, there was a day the output reached 39,000 tons. Quality also was good, and there were no accidents.

We thus achieved quantity, speed, quality and economy, and fulfilled our plans in an overall manner. During the last ten-day period of September, the average daily output of glass was 19,200 cases. This also was unprecedented. The total output for September reached 550,000 cases, of which 86 percent were first grade quality. In October, the percentage of products of first grade quality was raised another five percent. The Dairen Glass Works averaged 99.6 percent first grade output, creating a new national record.

Generally speaking, the situation in September was very good. Especially during the last ten day period of the month production was raised, management improved, production costs lowered, and labor productivity raised to a marked degree. This proves that the ridiculous view of the rightist opportunists who said that "quantity and speed cannot be accompanied by quality and economy" is untenable. So long as we exert our utmost efforts, strengthen leadership, and improve management, we are sure to realize quantity, speed, quality and economy all at once. This truth has been confirmed by all departments in China.

Let us now talk about the October situation. Generally speaking, October has not been a bad month. Compared with September, however, especially the last ten-day period in September, it cannot be considered very good. Production in October was generally not as good as in September. During the last ten-day period of September, the average daily output of cement was 36,300 tons. During the first five days of October the average daily output was only 28,000 tons. During the period October 1 through 20, the daily average was only 31,400 tons, 13.5 percent lower than the last ten-day period in September. The last five days of October saw an improvement, with the daily average reaching 34,305 tons.

The same situation also obtained with regard to glass. The average daily output during the last ten-day period in September was 19,200 cases. By the same token, during the first 20 days in October, the daily average was only 18,200 cases, a decrease of 1,000 cases, or 5.5 percent. This deserves our serious attention.

As we all know, the state is urgently in need of cement and other construction materials. The Central Government recently issued a demand that industry should support agriculture. During the coming winter and the spring of 1960, the scale of farmland water conservancy development will be greater than any previous year. This will call for large quantities of cement. Many provinces are also demanding glass for construction of greenhouses for nurseries and vegetable gardens. In industrial construction, the 1960 scale of capital construction will also be much greater than in 1959. All these demand that construction materials industry speed up their work and leap forward flyingly.

At present, in our Ministry, we are convening an enlarged conference of chiefs of departments (bureaus). The conference is discussing the production tasks for the fourth quarter of 1959, and for the whole of 1960 as well as for the first quarter of 1960. The conference has affirmed that we must guarantee advanced fulfillment of 1959 increased production and economy plans, and strive also for their overfulfillment. Viewed from the accumulated figures for January through October, to guarantee the fulfillment of 1959's new targets for increased production and economy, we still have a difficult task to accomplish in the fourth quarter. This will be particularly true during the sixty-odd days now left in 1959. During the fourth quarter, we have to produce 3.6 million tons of cement, 1,750,000 cases of pane glass, 224 tons of fiber glass, 2,930,000 units of sanitary equipment, 3,374 tons of mica, 32,114 tons of asbestos, and 400,000 tons of gypsum.

Can this task be accomplished? After study, we feel that it can be accomplished, and must be accomplished. The fulfillment of this task is not only of great economic significance, but also of great political significance. In respect to major construction materials, by fulfilling the new 1959 increased production and economy plans, we shall have realized the combat call of the Eighth Plenum of the Eighth Central Committee of the Party for the fulfillment, three years ahead of schedule, of the targets laid down in the second Five Year Plan. At the same time, the call of the Central Committee to "catch up with and surpass Britain in the output of major industrial products in about ten years" will also be realized far ahead of schedule as far as cement is concerned. Accordingly, for both political and economic considerations, it is necessary that during the fourth quarter, we guarantee fulfillment and overfulfillment of the various targets

described above.

However, the production situation in October was far from ideal. We must continue to exert even greater efforts, and adopt immediately effective measures to change this situation. Conditions in October were not inferior to those in September, yet why was October production not as good as the last ten-day period in September? Production in other individual industries increased with each ten-day period, month after month. However, during the first twenty days of October our production was lower than in September. Although in five of the days, cement output reached 34,000 tons, this was still lower than during the last ten-day period of September.

Although detailed reasons for the drop were different in different plants, nevertheless, summing things up, the following possible causes exist:

First, we brought forward a call that output during the first quarter in 1960 must not be lower than that of the fourth quarter of 1959. Possibly fear that should fourth quarter output increase, output for the first quarter in 1960 could not be guaranteed, prompted a sort of conservatism and resulted in lower production figures for the fourth quarter of 1959. This might have been done to assure that output in the first quarter in 1960 would be higher.

On this point, we must all clearly realize that we must first exert greater efforts to guarantee a leap forward in 1960, and must not allow our concern for the problems of 1960 affect our zeal in 1959. If we fulfill more 1959 targets, we shall have won time. When more plants are thrown into production in 1960, there will be improvement on every side. Thus, viewed overall, production during the first quarter will not be low. Generally speaking, whatever the case, we still must exert 240 percent effort, and carry out 120 percent measures to guarantee the fulfillment of 1960's plans for increased production and economy.

Second, in the cement industry, during the last ten-day period in September, stocks of semi-finished materials were reduced. Some plants urged increasing stocks to normal volumes. This is wise. However, this must not affect the cement output. Stocking more semi-finished materials will facilitate production. However, we must not emphasize stock figures to the detriment of increased cement production.

Third, since October, there were more accidents involving equipment. Quite a few plants reported such accidents, and output was somewhat affected.

Fourth, during the last ten-day period in September, no inspection of equipment was carried out. Inspection and repair was done during the early part of October. What needs inspection and repair should be inspected and repaired immediately. This is the only way.

Regardless of the number of reasons, the cause is traceable ultimately to our failure to oppose thoroughly rightist thinking, our failure to unearth potentials fully, and our failure to exert all-out efforts. As a result, at the slightest disturbance, we are affected. Therefore, we must grip the situation tightly. We shall thus fulfill our task. If we do not grip the situation tightly, there is the danger of our failing to fulfill our task. We must not only strive to win each day, and each ten-day period, but also strive to win each minute, and each second of our time. To ensure the fulfillment of our 1959 task, we must grip tightly the six days before us. November, especially, is the key month. So, in November we just fight a great battle for high output and good quality.

Our concrete demands will be as follows: In October, the large and medium size modern cement works must exceed the million ton mark. In November they must produce more than 1.1 million tons, with a daily average exceeding 36,000 tons. This demand can be met. In September, for example, the daily output averaged 36,400 tons. It is possible for this figure to be reached in November, although, of course, the situation will be tense. So long as we do not relax our efforts for a single hour and a single minute, a single day and a single ten-day period, we can guarantee fulfillment.

The newly constructed cement works must produce more than 70,000 tons in November. The output of pane glass must reach 650,000 cases, averaging more than 21,000 a day. High grade fiber glass output must reach 84 tons, averaging 2,800 kilograms a day. Porcelain sanitary ware output must reach 99,000 units, averaging 3,300 units a day.

The task is a gigantic one. However, so long as we exert our utmost efforts, we can guarantee its fulfillment. All departments must take immediate steps and throw themselves into the battle. They will thus win the fight. If we do not

make preparations, it will be difficult for us to realize the call for production in the first quarter of 1960. This call stipulated that the first quarter of 1960 be no lower than the fourth quarter of 1959.

However, we must not stress before the masses of workers the preparatory work for production in 1960. It will suffice for our leadership to have this in mind, and to pay attention to 1960 work in their major arrangements. At the moment, we still must concentrate our main forces on guaranteeing the fulfillment of 1959 production task. We must not scatter the strength of the masses. In November, we must concentrate our forces on shock efforts, guaranteeing the production of more than 1.1 million tons of cement, and on production tasks connected with the output of other construction materials. Then, in December, the leadership may be able to devote some effort to 1960 problems. Accordingly, it is important to win the battle of November.

We must attend properly to the following tasks if we are to guarantee fulfillment and overfulfillment of 1959's increased production and economy plan, and make adequate preparations for 1960 production.

First, we must be thorough in opposing rightist thinking and must exert utmost efforts to push forward to a greater high tide the movement for increased production and economy. This is the key to guaranteeing fulfillment of the task. Rightist opportunists, rightist thinking, and rightist activities are incompatible with our demand for the vigorous promotion of the mass movement and the realization of the big leap forward. They pour cold water over the masses and loosen their spirits, and seriously undermine the development of the mass movement and the big leap forward in production. We must, therefore, overthrow rightist thinking.

After the Eighth Plenum of the Eighth Central Committee of the Party, all departments and all enterprises developed an anti-rightist struggle. Facts proved that rightist thinking and rightist activities exist to different extents in all departments and all enterprises. After this fight against them, the problem was solved and production rose rapidly. Take the various construction materials mentioned above. Their output, quality, and labor productivity during July, August and September grew better each succeeding month, and each succeeding ten-day period, while production costs were steadily reduced. This is the great role played in produc-

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tion by opposition to rightist thinking and exertion of efforts.

The problem which still exists is the fact that some departments and enterprises have not been sufficiently penetrating and thorough in their opposition to rightist thinking. They have gone only half-way, only carried out superficial ideological inspection, but have not yet really thoroughly uprooted rightist thinking. They have not really put up 240 percent zeal in their action. Thus, the obstacle to production have not been fully eliminated. Production can not go up, or, if it does, it can not remain. It will drop immediately as soon as an ill wind blows. Therefore, we must continue to oppose rightist thinking, oppose it penetratingly, oppose it thoroughly, and uproot it. With the obstacles to production thoroughly eliminated, we shall have continued leap forwards.

Opposition to rightist trends and exertion of utmost efforts are inter-related. The more penetrating and thorough our opposition to rightist thinking, the greater and fuller may we exert our efforts. Chairman Mao had said, "Man is the most lively, the most active factor in production forces." The general line of our Party can develop such a large force because it not only solves individual problems in socialist construction, but also solves the most universal and most basic problem in socialist construction, the full development of the activism and creativity of the people.

We always emphasize the objective. We emphasize the inadequacy of this factor or of that factor. We fail to realize that, once the zeal of the masses is aroused, their activism and creativeness are spurred. Moreover, where conditions did not exist, they become into being. Where conditions could not be found, they are produced.

This is one of the mistakes of the rightist opportunists: they spend the whole day counting with their fingers, and only see equipment and quotas. They continue counting until they do not find the way out. We must count, but we must not confine ourselves to equipment and quotas, but also take into account man's subjective capacity.

Practice has proved that industrial equipment has great potential. So long as man will fully utilize his subjective capacity, the potentials of equipment can be developed to an unlimited extent. Old production quotas can be exceeded

and new advanced production quotas can be created. The same machinery will produce different effects when worked by an activist than when worked by a passivist. Accordingly, we must fully develop man's subjective capacity, lead cadres, technicians and staff workers to combine with the broad masses of workers. Thus, we shall develop limitless wisdom and strength. This is an infallible weapon for guaranteeing fulfillment of our production tasks in November and December.

After the Eighth Plenum of the Eighth Central Committee of the Party, all areas brought into being a high tide of the vigorous movement for increased production and economy. We must properly lead this movement and continue to push it forward to a new high tide. The proper promotion of the mass movement for increased production and economy will not only guarantee fulfillment and overfulfillment of 1959's production task, but also lay a foundation for a continued leap forward in 1960.

Second, we must continue to implement the policy of combining the large, medium size and small enterprises to "walk on two legs." Large, medium size, and small plants must all increase production. China's small modern cement works are holding a conference in Tangshan. It is being very well conducted. After the Tangshan conference, with the exertion of utmost efforts, overfulfillment of the 1959 production plan can be guaranteed. It is estimated that in 1960, production will increase by 100 percent, or even by 150 percent.

We have not done away with the production of cement by native methods in the people's communes. They have developed in accordance with the needs of the rural areas, and they serve the rural areas. It is good for people to use their own materials, their own manpower to produce their own products for their own consumption. Native cement still will be a vital force. Cement production in 1960 will still be between three million and four million tons short of the state's needs. Small modern cement works can be a great force in the solving this contradiction.

The present production capacity of small modern cement works may reach between five million and six million tons. We have spent decades in the development of large modern cement works, yet production has reached only 10 million tons. At the Tangshan conference, arrangements have been made for the construction of small modern cement works in 1959 and 1960. We cannot, under any circumstances, allow a situation

in which the small modern works fulfill their tasks while the large modern works do not fulfill theirs.

For this reason, large modern works must resolutely take up the challenge and ride together the small modern works and leap forward together. Newly constructed large modern works must also use every means to catch up quickly, and guarantee the production of 200,000 tons of cement within 1959, so as not to fall behind the small modern works.

Similarly we must "walk on two legs" in the glass, porcelain, and non-metal mineral enterprises. Key mines, large modern plants, small mines and small plants must all march forward together. The joint efforts of large modern plants, small modern plants, and newly constructed plants will guarantee fulfillment of the 1959 plans for increased production and economy.

Third, we must grasp the present opportunity and win every second of it. By the first ten-day period in November, we must reach the daily average output for November. From the beginning we must do better than the last part of October, or at least not lower. We insist that on November 1 we shall start the month right and, at the same time, make every day a red day, strive to make each successive ten-day period redder than the previous period, the output higher. Thus we cannot afford to relax for a single hour nor a single quarter of an hour.

Works managers and Party Committee secretaries must earnestly consider ways and means to prevent the production level during the first ten-day period in November from falling lower than that of the last ten-day period in October or the last ten-day period in September. The daily output of China's large and medium size cement works must be made to reach 36,700 tons. This demand must be transmitted to the masses, and the plans handed over to them for full discussion, for the bringing forward of measures. Then the leadership and the masses should combine efforts to attack key problems and take hold of weak links. In this way, they will guarantee fulfillment of November production tasks.

In November, we must not only raise production, but also guarantee quality and, as far as possible, economize on raw materials, fuel and power. In current production, special attention must be given to guaranteeing the supply of materials. Our leadership must share responsibility and attend

to this personally. At the same time, they must pay attention to economy of materials. Attention must also be paid to the maintenance and repair of equipment and the manufacture of accessories. What does not need repairing should not be repaired. What needs repairing must be repaired. Otherwise, accidents will occur and we shall be put on the defensive.

In our work we must pursue the mass line and solve problems by mobilizing the masses on all sides. However difficult the problems, however gigantic the tasks, so long as we fully mobilize the masses and lead and combine with the masses, problems will be solved and tasks will be fulfilled. We shall have an overall leap forward accompanied with quantity, speed, quality and economy.

Fourth, we must vigorously promote technological revolution and technical reform, and earnestly popularize advanced experiences which have been successfully carried out. Since the big leap forward, various departments and various units have had many good experiences. In the cement industry there are the experiences of: "three large measures and one quick one", use of mineral dregs as raw material, feeding of raw materials at both ends, use of black paste, use of mineral agents, and use of lime as a raw material. In the glass industry, the Ch'inwangtao Glass Works created the "three diligent and four stable" work method in the smelting kiln, and the Dairen Glass Works created the experience of "major four stabilizations", which raised quality and brought 99.6 percent of all output to the level of grade one products.

All these experiences must be earnestly popularized. Today, there is another method for the popularization of advanced experiences. In Liaoning Province, the No. 3 Plant of the Anshan Steel Works started technical exhibition competitions. This is a very good method. It is truly the method of studying the advanced, catching up with the advanced, and comparing with the advanced. This experience has been popularized in the cement works and glass works of Liaoning Province. Other areas should study it and popularize it.

Fifth, we must strengthen cooperation. Some problems seem difficult in a single plant, in a single locality. When different departments, different factories and mines, and different systems effect cooperation, problems will be easily solved. Since the big leap forward, the Communist character of mutual cooperation has grown continuously. This is very good. It should continue to be maintained and further.

developed.

We must advocate not only the advanced helping the backward, and close cooperation between the internal departments of a single enterprise, but also advocate great socialist cooperation among enterprises, among industries, and among the different links of production, transport and supply. Innumerable facts since the big leap forward have movingly told us that strength created by great socialist cooperation is definitely not the same as the simple coordination of individual productive forces. It not only greatly raises individual productive forces, but also creates new and greater productive forces. We must develop the Communist character of subservience to the body as a whole, concern for the general situation, giving precedence to others before ourselves, and giving others facilities.

We now have certain problems and difficulties. There are problems in transportation. In some areas the supply of coal is inadequate or its quality is not good. Power supply is not adequate, and supply of ingredients is not inadequate. There are also problems in accessories. To solve these problems, we must rely mainly on mobilization of the masses, using our own efforts for rejuvenation. Leadership organs must also help in the solution. Nevertheless, there are some problems which normally cannot be solved by a single factory, a single department. We shall have to rely on cooperation. In transportation for instance, we have to rely on such departments as the railways, and rely on social transportation forces to properly develop short distance transport. We can also organize cooperation to solve problems connected with equipment and accessories. We ourselves rely on cooperation. Other units need our cooperation. We all need active cooperation. If we all can take the initiative and cooperate, we can effectively push forward a continual leap forward in production.

Sixth, we must strengthen the concrete leadership of production and organization work in production. We must not merely attend to production once in five days. Quite the contrary, we must attend to production every day, and to planning every day. Grasp tightly, grasp thoroughly, grasp intensively, grasp tightly, and grasp fiercely. In the big battles, all departments and bureaus must, from time to time, understand conditions in the factories. They must, from time to time, introduce the experiences of advanced factories, and help factories with problems to solve.

All individual enterprises must earnestly implement the system of two participations and three combinations, and strengthen measures for the regulation of production. They must inform the masses of their production tasks, so that each workshop, each company, and each team will know what is in store for them. Leadership cadres must penetrate the workshops, and discover and solve problems in time, exert utmost efforts and strive to win every second. At the same time, we must strengthen the management of enterprises so that they may cope with the needs of increased production and economy. Experience has proved that any factory will be guaranteed a continual rise in production if its masses are mobilized, if it attends to emulation drives properly, and if its management is well conducted.

In general, we must oppose rightist thinking thoroughly, exert our utmost efforts, and push to a hightide the movement already developed for increased production and economy, to guarantee the leap forward of 1959 and to make proper preparations for a continued leap forward in 1960.

ADHERE TO THE POLICY OF "WALKING ON TWO LEGS" AND

STRUGGLE FOR A CONTINUED LEAP FORWARD

BY THE CEMENT INDUSTRY DURING 1959 & 1960

[The following is a full translation of a summary report by Ch'en Yun-T'ao, Deputy Minister of Construction and Engineering, at the National On-the-Spot Conference of Small Size Cement Industry, as published in Chien-chu Ts'ai-liao Kung-yeh (Construction Materials Industry), Peiping, no 21, 7 November 1959, pp 9-16.]

Comrades:

The National On-the-Spot Conference of the Small Size Cement Industry will to be victoriously concluded today.

The conference has been well conducted. Achievements have been great. From beginning to end, the conference fully implemented the spirit of the Eighth Plenum of the Eighth Central Committee of the Party. It effectively coordinated with the production conference called by the State National Economic Commission.

At the conference, with the spirit of fighting rightist thinking and exerting full efforts, we inspected and summed up our work during the past one year and more. We affirmed our resolves and interchanged our experiences. We made arrangements for production and capital construction work during the next two months and in 1960. Through this conference, we greatly raised our ideological understanding. In particular, our whole body of delegates more clearly understood the current good political and economic situation before us, and more penetratingly understood the greatness and correctness of the general line of the Party and the policy of "walking on two legs." As a result, we became clearly convinced of our direction, confirmed in our faith, and we laid the ideological foundation for further implementation of the Party's policy of "walking on two feet" in the development of the cement industry with quantity, speed, quality and economy, for a greater, better, and more comprehensive future big leap forward.

As stated by comrade delegates, our conference has been one which fought rightist thinking and exerted utmost efforts. It has been a conference for pledging our forces for the big leap forward. It fully reflected the will of the broad masses of workers of the cement industry of all China. It also received the enthusiastic support of the workers. All workers who have heard of the convocation at T'angshan of the national on-the-spot conference of the small size cement industry, have been stimulated, and are filled with gladness and have presented to the conference gifts in the form of advanced fulfillment of production plans and the creation of new production records.

Delegates to the conference also transmitted the aspirations of the broad masses. The delegates from Honan Province brought forward a proposal for competitions. This won unanimous support and an enthusiastic response from all delegates. At the conference we found enthusiasm for friendly competitions in which everybody exerts his utmost, everybody press forward, everybody tries to catch up with the rest among provinces and among factories, and among enterprises of the same type.

Delegates from different localities started to issue challenges, to accept them, and to furnish letters of guarantee. The proceedings of the conference and the proposal of the Honan delegation were transmitted in good time through telephone, telegram and broadcasts to workers in all work units. This greatly roused the production zeal of the workers. It can be said that our conference has, from beginning to end, been in close touch with the enthusiasm and working zeal of the workers of the cement industry throughout China. The conference has been combined with the mass movement for increased production and economy so vigorously developed on our present cement industry front.

Precisely because this is the case, our conference has developed fully a spirit of democracy. With big-character wall bulletins, through the use of big contending and big blossoming, and with big debates, we achieved a state in which everybody speaks out all he wants to say, and everybody feels elated. With overflowing enthusiasm and humility, we learned from one another and worked actively the satisfactory fulfillment of the task of the conference in the midst of a political atmosphere of great unity. We have effectively pushed forward a hightide of the movement for increased production and economy on the cement industry front. The result is that

each succeeding crest rises higher than the previous one. I believe that after the spirit of this conference has been thoroughly transmitted to all quarters, the "groups of small modern plants" and the "groups of small native plants" will have more brilliant achievements.

Now, I propose to sum up the experiences introduced, and the views discussed by comrades at the conference, and speak on the following issues.

First, the Achievements Gained in the Movement for the Vigorous Development of "Groups of Small Modern Plants" and "Groups of Small Native Plants."

Like other industries, in the cement industry, large modern plants constitute the backbone. Our aim is the construction of large, highly mechanized and automated plants. There is no doubt about this. Rapid construction of medium size and small plants, vigorous development of the mass movement beginning from the lower levels to the higher levels, and from native plants to modern plants - these are decided by the level of industrialization of the state.

During the big leap forward of 1958, under the illumination of the general line of the Party, in order to promote the great development of agricultural production and the great development of all sectors of the rural economy, the broad masses of peasants developed a great movement for the building of people's communes. The broad masses of peasants cried joyously for the promotion of water conservancy, the development of industry, and the comprehensive development of all phases of economic construction in rural areas. This gave birth to a strong demand for development of the cement industry.

The movement for groups of small native cement works was launched in keeping with the large scale development of water conservancy construction in the rural areas in 1958. It was launched under the leadership of Party committees in various localities, with the development of the activism of broad masses of the peasants, and with the popularization of experience in Tang-kou hsiang, Teng-feng hsien, Honan, in the production of cement by the native method of using lime to sinter clay.

The broad masses of peasants resolutely implemented the Party's policy of "walking on two legs". With uncontrolled enthusiasm and skyrocketing zeal, they overcame all difficulties, broke down superstition, achieved ideological liberation, developed the great Communist character of daring to think, to speak and to act. Without demanding funds, material supplies or equipment from the state, they used rocks as rollers, stones as grinders, and with the services of cattle, asses, mules, horses, and their crude and simple tools, they vigorously promoted cement production through "groups of small native plants."

At the time, there were technical problems that could not be solved. However, under the call of the Party, they carried out technical renovation, and invented all kinds of simple equipment, such as globular grinding machine, globular tubings, pneumatic machines and all kinds of working methods. They initiated a historically unprecedented mass movement with millions attending to the production of cement. They achieved very rapid development. Within a few months, in all parts of China, they put up more than 75,000 small native cement kilns and more than 24,000 small native cement factories. This created a new situation in the cement industry, a greatly moving situation with flowers blossoming everywhere. These small cement works (kilns), in 1958, produced rapidly more than 1,300,000 tons of cement. This played an important role not only in easing the tense situation in cement supply throughout China, guaranteeing the needs of farmland water conservancy construction and other construction projects of the communes, and supporting the big leap forward in agricultural production, but also in developing a new road in high speed construction of China's cement industry.

On the foundation of the great development in 1958, all areas, in 1959, carried out a policy of overhauling, consolidating and elevating. They adopted the measure of the "five fixed", and the principles of "four reliances" and "three local expediences" to carry out a series of tasks in overhauling and technical renovation. The result was that equipment was increased and techniques raised to a higher level. Of the small native cement works carrying on regular production, the overwhelming majority have been transformed into modern works or modern and native combined works, gradually realizing mechanized, semi-mechanized and industrialized production. There were also new and great achievements in capital construction and production.

In capital construction, up to October 15 [1959], according to incomplete statistics, 503 small modern cement works had commenced production with an annual production capacity of 4,980,000 tons. Among them, 343 plants are less than 10,000 tons, 102 are from 10,000 to 30,000 tons, 50 are 32,000 tons, and 8 are more than 32,000 tons. Now under construction and expected to commence production in the fourth quarter of 1959, are 76 small modern cement works, with an annual production capacity of 1,364,000 tons. Among them, 34 plants are of 32,000 tons.

Of the two categories mentioned above, one includes those already thrown into production, the other those expected to start production before the end of 1959. Together, there are a total of 579 small modern cement plants, with an annual production capacity of 6,340,000 tons.

In addition, we are also engaged in the construction of 31 modern cement plants expected to commence production during the first quarter of 1960, with an annual production capacity of 644,000 tons.

By that time, we shall have 610 small modern plants with an annual production capacity of 7 million tons. These small cement works constitute a strong new force on the cement industry front. Combined with the large modern cement works, they have become a cement industry network universally distributed throughout China, playing an increasingly large role in the continued big leap forward of our socialist construction.

In production, according to incomplete statistics, by the end of September 1959, small modern cement works produced 816,000 tons. There is confidence that production for the whole year will reach 1.5 million tons, overfulfilling by 60 percent the 1959 state plans. We are striving to bring the output up to 1,700,000 tons. In addition, small native cement works using stone grinders and stone rollers for production with lime sintering clay, are expected to produce more than one million tons in 1959.

These figures are incomplete. However, even with the figures available we find that within the short space of a year or more, the rapid growth of the small modern cement industry and the greatness of its output have been truly astounding. We should say that this is not a general leap forward, not a general big leap forward, but rather a

especially special leap forward. As stated in an editorial in the Jen-min Jih-pao, "The big leap forward is like a magic brush which during the period a year or more, has painted numerous new and beautiful pictures of the expansive territory of the motherland."

During the coming winter and the spring of 1960, there will be another big leap forward in water conservancy development. The seven million army of Honan Province and the 400,000 army of T'angshan Municipality have started vigorous development of farmland conservancy engineering projects. There can be no more impressive picture.

Our achievements, however, are not limited to the above. The small modern cement industry, after improving its management and establishing a necessary system and strengthening its analytical machinery and inspection work, has basically overcome its technical drawbacks. What are the standards and contents of the technical goal of which we speak? (1) Basic mastery of production technique. (2) Production of cement with a strength reaching grade number 300 and above, with good stability, and with other physical properties and chemical components fully satisfying standards laid down by the state. (3) Strict elimination of yellow balls, yellow powder, plus the rate of acceptance of semi-finished materials reaching 80 percent and above.

According to investigations made in ten provinces before August 1959, of cement leaving factories, the entire produce of two provinces reached the grading number 300 and above, while in the other eight provinces, 83 percent of the output reached the grading number of 300 and above. After August, the output of five provinces completely met the standards, and 87 percent of the output of the other five provinces met the standards. As to the stability of the cement, according to investigations from ten provinces before August, two provinces produced cement with abnormal stability. After August, the output from all ten provinces reported good stability. The rate of acceptability of semi-finished materials averaged 80 percent for all.

We have also raised the rate of utilization of equipment. According to investigations in 14 provinces, we have at present utilized about 45 percent of the major equipment of small modern cement works, including vertical kilns and grinding machines. This is from ten to fifteen percent above the utilization rate before August. Kirin Province

reported the highest utilization rate for grinders, 77.8 percent. Shansi Province reported the highest utilization rate for kilns, 88 percent.

We have greatly reduced work on production and raised labor productivity to a marked degree. According to investigations in six provinces before August, the production of one ton of cement averaged the use of 20 man-days. After August, the average was 11 man-days. Labor productivity was raised 45 percent. The Cement Works of the Honan Provincial Textile Company only used four man-days for the production of one ton of cement.

We have also gradually reduced the cost of production of cement. At present the cost of one ton of cement is generally between 70 and 80 yuan. According to investigations in 9 provinces, the cost was generally reduced by more than 25 percent compared with before August. In Hopei Province, the cost of one ton of cement was reduced to the average of 55 yuan. As to individual enterprises, the T'angshan Municipal Cement Works is producing cement at the cost of 26 yuan a ton. This is at the level of large modern plants. From the present trend, the cost of cement production may be further reduced by a wide margin.

Comrades, we may now state affirmatively that after a further stage of elevation, the small modern cement industry will have its quality greatly improved, and its production costs greatly reduced. Where resources and communication conditions are favorable, they may gradually reach or approach the levels of the large modern factories.

The successful practice of more than one year has further proved that the small modern and small native cement works not only will achieve quantity and speed, but will also achieve quality and economy. Comparing the more than 500 plants we have completed with construction of the large plants, not only is the time required for construction shorter, but investment needed is also smaller. We can further save from 45 to 60 percent of steel products, and also produce cement of grade numbers 300 to 400. At the same time, these small modern plants possess superior points such as the ability to obtain raw materials locally, production locally, consumption locally, facilitation of rational distribution of the cement industry, and facilitation of extensive utilization of resources, and economy of transport power.

The movement for "groups of small native plants" and "groups of small modern plants" of the cement industry is similar to the movement for "groups of small native plants" and "groups of small modern plants" of other industries. It is the product of the general line of the Party and the policy of "walking on two legs." It is the product of the great rise of the activism for the operation of industrial enterprises and the socialist awakening the broad masses of peasants. The emergence of this movement is no accidental phenomenon. It is the concrete reflection of the great aspirations of our 650 million people for rapid transformation of China's backward economic situation of "first poverty and second nothingness." For this reason, it has a most thriving vitality. Such a movement cannot appear with a cry from some quarters. By the same token, it will not collapse from the opposition of certain quarters.

As we all know, during the big leap forward of 1958, when we advocated popularization of native methods used in Wang-kou hsiang, Teng-feng hsien, Honan, of producing cement by using lime in the sintering of clay, there were people who criticized with pointed hands, taking us to task and distributing pessimistic views. They said, "Foreign cement is made by foreigners. It is nonsensical to produce it without machinery." There were also people who said, "If we can produce cement by sintering clay, then sparrows can be mated with cocks;" and "Trying to produce cement with native methods will lead to the loss of manpower and materials. We shall be deprived of both manpower and resources." Such were the sneers and ridicules heaped upon us.

By June and July 1959, these people became more prominent. They seized certain temporary and individual defects which occurred during the first stage of the movement and leveled attacks against us. They said that cement from our small native plants and small modern plants were "three lows and one high" (low quality, low output, and low labor productivity, and high cost), that "we acquired less than we lost," and that we "were giving people trouble and incurring financial losses."

Who are the people who take to task the Party's policy of "walking on two legs" and attacking the movement for groups of small native plants and small modern plants? Within our own ranks are these rightist opportunists. They arbitrarily stated that "groups of small native plants" and "groups of small modern plants" can achieve only quantity and speed,

but not quality and economy. They say the total of these plants is not big, and they have no future. They use as pretexts the defects we have already overcome or are overcoming, and reject the great achievements in our work. They distort our great enterprise as a black mess in an attempt to obstruct its progress. They seek to obstruct the thorough implementation of the general line of the Party and the policy of "walking on two legs", and the continued big leap forward.

However, the facts have not helped them. The practice of the past year or more proves that by vigorous promotion of the mass movement, vigorous development of the technological revolution and technical renovation, and vigorous operation of the group of small native cement works, far from "damaging both manpower and material resources, and leading to the loss of both manpower and resources," we have, on the contrary, achieved a state where the cement industry is blossoming everywhere, is being rapidly developed, and we have prosperity for our people and abundance of material resources.

In the course of the movement we have fostered a large technical force. After only a year or more, groups of small modern plants have achieved a production capacity of more than six million tons. This is more than twice the highest production level (about 2,290,000 tons) reached by the entire Chinese cement industry during the 45 year period from 1906 (when the Germans started the Chi-hsin Cement Works in T'ang-shan) through 1949 (the time of liberation).

Let us take Hopei Province for example. With the concern shown them and the support given them by the Party committee and people's council of the province, the people in Hopei, in little more than a year, constructed a group of 37 small modern cement works of 10,000 tons. Total investment was 35 million yuan, averaging an investment of only 35 yuan for one ton production capacity. By comparison, the large cement works of Ta-t'ung Yung-teng, and Yao-hsien had to invest more than 30 yuan on each ton of production capacity.

As for the time taken for construction, a large cement works of 600,000 tons capacity generally needs three years for construction. A small modern works of 32,000 tons needs only six to eight months. In fact, a 10,000 ton plant can be built in about three months. As to equipment needed in terms of weight, Hopei Province economized on steel products

to the extent of from 40 to 65 percent. At the same time, the overwhelming majority of these small modern plants possess the superior points of obtaining resources locally, production locally, consumption locally, facilitation of rational distribution of the cement industry, and extensive utilization of resources and economy of transportation forces. They are in complete accord with the policy of developing the cement industry with quantity, speed, quality and economy.

Naturally, during the first stage of the movement, we had some defects. In some cases, distribution of sites was not sufficiently rational, use of manpower was excessive, costs were high, and quality was not sufficiently stable. But how could we avoid some defects in such a great movement as mobilization of millions of peasants for the development of the cement industry? Everybody lacked experience. We had to grope for the truth as we studied. We had to design as we constructed. We had to improve tools and improve equipment as we were carrying out production!!

The incidence and development of anything has to follow a course of from lower levels to higher levels. This process is a natural law of the development of all things. After practicing for over a year, most people have come to understand this objective law. All have acquired greater and stronger confidence in overcoming temporary and individual defects which emerged during the first stage of the movement.

In overcoming these defects, we marched forward victoriously. The rightist opportunists distorted facts, maliciously attacked the general line, the big leap forward, and the policy of "walking on two legs." Their aim is very clear. It is an attempt to pave the way for the restoration of capitalism. We must, therefore, carry out a resolute struggle.

II. Some Basic Experiences

At the conference, we all introduced many moving and concrete experiences full of significance. If we earnestly study these experiences, and popularize them, they will play an even greater role in pushing forward small modern cement plants and small native cement plants. Let me repeat some of the experiences of universal significance we introduced:

(1) Our basic guarantees for victory are reliance on the leadership of the Party, persistence in letting politics

assume command, vigorous development of the mass movement, and vigorous promotion of the technological revolution. Some people hold the view: "The Communist Party always speaks of the same thing. The papers publish it, and the conferences discuss it." Let me ask, other than the leadership of the Party, other than letting politics assume command, and other than the mass movement, what else do we have? This set of principles can be applied everywhere in the universe and be found satisfying. If we do not rely on the leadership of the Party, if we do not vigorously develop the mass movement, and do not vigorously promote technological revolution, how can we achieve rapid development?

Economic work is governed by laws which reflect objective realities. Some people say economic accounting is a law. They say what must be done in the construction of factories is also law. However, the real law and truth is to be found only in reliance on the leadership of the Party, persistence in letting politics assume command, reliance on the masses, and pursuance of the mass line. After the masses have been mobilized, we must develop their creativeness and wisdom. When we have enthusiasm and activism, where are they to be used? We must lead them to carry out technological revolution and technical reform. Without these two laws, development is impossible.

In the development of the native cement industry in 1958, the leadership of Party committees at all levels played a decisive role. In the future, it will continue to play a decisive role. As already stated, it is the strong desire of our 650 million people to rapidly change China's economic situation of poverty and backwardness. Since they have achieved liberation under the leadership of the Party, their aspirations will be manifested in action. Accordingly, in the promotion of economic construction, the organization of the mass movement rests on an extensive mass foundation. The policy and line of the Party conforms with the aspirations of the masses and represents the interests of the masses. In 1958, the movement for groups of small native cement plants developed vigorously like water spreading over the rooftops. It tended to become transformed into groups of small modern cement plants. Great victory was achieved. This was precisely because, under the leadership of Party committees in all localities, we resolutely implemented the Party's policy of mobilizing the masses, relying on the masses, and vigorously developing the mass movement in promoting industry. We put into practice the combination of leadership cadres,

technical personnel and workers, and promoted vigorously technical reforms and technological revolution.

In the course of the 1958 movement for vigorous development of "groups of small native cement plants", the Party committees in all localities directly controlled the cement industry. Many provinces and municipalities created cement production headquarters, or cement production offices. In some cases, the Party secretary assumed command, and in other cases the chief of the industry department assumed command. We vigorously developed the technological revolution and technical reforms and invented many simple items of equipment, and improved many production tools and equipment.

In 1959, in the course of overhauling, consolidation and elevating the industry, Party committees in all localities controlled the situation. In addition to assuming political, ideological leadership and policy leadership, they also arranged for investments, material supplies, equipment, and the provision of cadres. All this has led to full organization of the activism of the broad masses of cadres and people. In this way, they exerted their utmost efforts, pressed forward consistently, and marched from victory to victory, going forward continually.

Recently, the spirit of the Eighth Plenum of the Eighth Central Committee of the Party has further greatly roused us. Party committees at all levels have raised high the red flag of the general line, the red flag of the big leap forward, and the red flag of the people's commune, to develop the great struggle against rightist thinking. They have vigorously developed a production high tide of colossal proportions in the fields of industry, agriculture, communications and transport, and have thus greatly pushed forward the cement industry.

(2) We must exert our utmost efforts time and again, and press forward consistently time and again. The development of production and capital construction of the small modern cement plants during the first three quarters of 1959 has further proved the truth brought forward by Chairman Mao that "our spirits must be roused but not let off." Before the Eighth Plenum of the Eighth Central Committee, some people held that it would be difficult to fulfill the targets laid down in the confirmed plans for 1959 (126,000 tons of cement from the small modern plants). However, after the plenum's spirit was implemented, we felt that we not only could fulfill

the confirmed plans, but also overfulfill them.

Our conference has been well conducted. This has been due to the fact that delegates from various areas all exerted their utmost efforts, all pressed forward consistently, sponsored friendly competitions, and brought forward targets of the leap forward. They also concretely analyzed subjective and objective favorable factors and questions and difficulties which existed. They concretely studied ways and means for full development of their subjective capacity and utilization of objective possibilities. On this basis, they formulated measures for production increase. If we develop the same spirit in our future work, there is no doubt that we shall achieve even greater victory.

This morning we further developed friendly competitions in which one went after the other in pursuit, and brought forward measures which had gone through proper study. Our targets are also advanced. Originally, we had an initial figure of 926,000 tons; the next figure set was 1,300,000 tons; and the third figure /striven at/ was 1,500,000 tons. After the present conference, all of us exerted efforts and pressed forward, so that the second figure is no longer 1,300,000 tons but 1,466,000 tons; and the third figure is no longer 1,500,000 tons but 1,680,000 tons.

During June and July, the rightist opportunists produced a gust of cold wind which affected a small number of cadres who arrived at a wrong understanding over the revision of plans. The production situation took a small U shape. After the Lushan Conference, our zeal was roused. Let our comrades look back. The second day after the Central Committee issued its August 7 directive, we started a production high tide. The cement industry saw a new situation of output rising daily. Where did we get this confidence? Where did we get this strength? We must say that the strength came from the Eighth Plenum of the Eighth Central Committee of the Party. After we opposed rightist thinking and fully roused our zeal, the righteous spirit of the revolution was greatly promoted, and the confidence of the comrades was further affirmed.

(3) The strengthening of concrete organizational leadership is an important link in our work. The higher the enthusiasm of the masses, and the more penetrating the movement, the more must we strengthen leadership. Apart from strengthening of political and ideological leadership, we must also strengthen concrete organizational leadership.

According to our experiences of the past year or more, all localities, provinces and municipalities made more marked achievements in their work and registered more rapid development when relevant provincial or bureau leadership controlled the work, reflected conditions to the local Party committee or relevant department in good time, and gave timely and concrete guidance and practical assistance to industrial enterprises.

Take the example of the Inner Mongolian Autonomous Region. Its foundations in various industries were weak. It did not have a cement industry to start with. Nevertheless, it did a comparatively better job. There are many provinces and municipalities with industrial foundations not much different from those of Hopei Province. However, Hopei made greater progress in its work. Other provinces like Honan, Hunan, Shansi, Shantung and Liaoning also did fairly well.

On the other hand, where the work was not controlled, development was slower.

At the moment, the movement for increased production and economy in our small native and small modern plants has reached the stage of penetrating development and elevation. This calls on the leadership to carry out more intensive and more penetrating organizational work and ideological work, to grasp in time the progress of production and capital construction, and to solve in time the key problems which exist in production. In a word, we must be penetrating, we must strengthen concrete organizational leadership, earnestly foster models, plant the red flag, and promote the continual forward march of all work.

(4) We must continue to develop a spirit of self effort for rejuvenation and vigorous promotion of Communist cooperation. In 1959, the "group of small native plants" are being transformed into the "group of small modern plants". Various localities have developed a spirit of self efforts for rejuvenation and solving problems of materials and equipment by themselves. They have registered marked achievements. Of equipment with an annual production capacity of 32,000 tons of cement, the Ministry supplied only ten sets or so. The remainder were all procured in the various localities themselves. That is to say, of the equipment now in production with a production capacity of more than 4,900,000 tons, only equipment with a capacity of 320,000 tons was supplied by

the Ministry. This amounted to less than 10 percent. Under the Provincial Committee of the Party and the Provincial People's Council, Hopei Province in 1959 has solved the procurement of equipment with a production capacity of more than 5,500 tons. Other provinces have also provided hundreds of grinding machines, wind blowing machines, tubes for making balls, and other equipment.

Third, Future Tasks and Measures

During the next two months, and particularly in 1960, China's national economy will see an even greater leap forward. Under this new situation, the state will need much more cement. According to the scale and investment of capital construction in China in 1960, and the targets of the preliminary plans formulated by the various industrial and communications departments, cement production in 1960 must at least reach 18,000,000 tons to meet basic needs. To cope with this new situation, the cement industry of China must develop at greater speed.

At the present moment and for a period to come, our major tasks are as follows: continued thorough exposure and criticism of rightist thinking and rightist activities; thorough overcoming of laxity; higher lifting of the red flag of the general line and the big leap forward, and adherence to the policy of "walking on two legs." We must exert utmost efforts, press consistently forward, grasp the very favorable situation, work hard for two months, and ensure realization of increased production in 1959 for small modern cement plants to reach the total output of 1,500,000 tons, and strive to reach 1,700,000 tons. We must ensure rapid completion of the 76 small modern plants to be thrown into production within 1959. We must make good preparations for the continued overall leap forward of the cement industry in 1960. The concrete demands and measures are as follows:

In the field of production:

(1) We must develop fully the capacity of existing equipment, and raise the rate of utilization of this equipment. From data on investigations made in several provinces, although the rate of utilization of equipment was been raised rapidly, there is still considerable capacity which has not yet been fully developed. The average capacity of cement grinding machines in China is developed to the extent

of only about 50 percent. The lowest figure is only 10 percent. The capacity of the vertical kilns has also been developed to the extent of about 45 percent. Both in the kilns and the grinding machines, about 50 percent of the production capacity has not yet been utilized. This is the major problem existing in production. It also is a favorable factor in guaranteeing fulfillment of the production increase plans for 1959.

We must adopt all measures to raise work technique, strengthen the maintenance, inspection and repair of equipment, actively organize and foster technical forces for repair work, control the work of the manufacture of accessories, solve the problem of the supply of lubricating oil, and devise all ways and means to raise the utilization rate of equipment.

The Peiping Municipal Cement Works has been doing rather well in this connection. Since the beginning of the construction of the plant, those immediately concerned raised work techniques and exerted greatest efforts in the installation of a repair shop. They used self efforts for rejuvenation, manufactured machinery equipment themselves, and enabled production to begin ahead of schedule. Their experience may be studied and used as reference in other localities.

(2) We must strengthen technical management and raise the quality of the cement. During recent months, many enterprises have done much to raise their quality, and have achieved marked results. However a condition still exists in which quality is not stable. A small number of enterprises still have a certain portion of their output of cement graded below No. 200. The acceptability of semi-finished materials is still at a comparatively low level. We must strengthen technical management, raise technical levels, and further improve quality.

First of all, we must utilize all possible factors to augment equipment for analysis and experiment. A factory with an annual production capacity of 32,000 tons and above must establish a laboratory capable of undertaking chemical analysis completely. It must also strive to install instruments for physical experiments. A factory with an annual production capacity of less than 32,000 tons should also undertake simple chemical analysis and experiment concerned with the strength of resistance and elasticity. With the

special administrative district or municipality as a unit, we must establish central analysis stations to popularize the experience of the T'angshan Municipal Cement Works in the use of three processes (mixing of ingredients, heating, and grinding) to ensure the outlet (despatch of cement from the factory), and strengthen the analyzing and inspection machinery's capacity for quality control. Analysis and inspection equipment must be regularly adjusted. We must have a good idea of the situation to facilitate the work of improvement. In addition, we must also undertake timely summarization of production experiences, formulate and implement work rules, and raise technical levels and product quality in combination with education of the workers in attaching attention to quality.

(3) We must strengthen planned management, organize close connections between different production links, and promote the improvement of other management measures. With attention to planned management as the central task, all enterprises must gradually establish basic systems for the control of costs, control of equipment, and control of material supplies. The T'angshan Municipal Cement Works and the Second Cement Works of the Tsingtao Municipal Construction Company have many and very good experiences. Other localities may study from them.

(4) We must vigorously study and popularize advanced experiences, and vigorously promote technical renovation and technological revolution. The present conference summed up and exchanged many advanced experiences. The earnest study and popularization of these experiences will lead to blossoming everywhere and the bearing of fruits everywhere. It will greatly raise our technical levels. For raising quality, raising the ratio of acceptability of semi-finished materials, increasing output, and reducing coal consumption, important roles are played by the following measures especially: The heating of kilns with concealed fire; the use of mineral agents; the use of mineral ore dregs as ingredients; the method of four diligent practices (diligent in adding raw materials, diligent in producing materials, diligent in keeping fire down, and diligent in inspection fire under the kiln); improvement of ventilation inside the large kilns; regulation of the length of the shop housing the grinding machine; selection of suitable ratios of mixtures; reduction of the grains and water content of materials; addition of agents helpful in the grinding process; strengthening of ventilation in the grinding machines;

addition of hard fluid compounds (volcanic ashes and dregs from water and dregs from mineral ores); as well as 12 important advanced experiences in the production of cement with gypsum dregs and mineral dregs from the Shansi and Wuhan areas. Of course, different enterprises operate under different conditions. Each unit should formulate concrete popularization plans in combination with its own concrete conditions.

(5) We must develop overall socialist competition. At the conference, Honan Province and the Second Cement Works of the Tsingtao Municipal Construction Company proposed inter-provincial competitions, inter-factory competitions, and competitions between small modern plants and large modern plants. Hopei Province proposed competitions between factories of the same type. These proposals are good. They will play an important role in the promotion of friendship, and mutual study, mutual promotion and mutual elevation among different localities and different plants. They should be carried through from beginning to end.

Competitions among different workshops, shifts and teams within an enterprise provide the foundation for inter-factory and inter-provincial competitions. Thus, leadership comrades of provinces, municipalities, departments, bureaus and enterprises should attach importance to, and strengthen concrete organization and leadership of such competitions. With special attention focused on key production issues, we must vigorously promote technical reform, and lead the masses to combine their skyrocketing zeal with their skill. Production and the living conditions of the workers should be given rational treatment, so that they may have both labor and leisure, and combine labor with leisure.

(6) We must vigorously improve the supply and transportation of raw materials and fuel, guarantee the consolidation of the movement for increased production and economy and push it forward unceasingly. The relevant departments (bureaus) of all provinces, municipalities and autonomous regions must take the initiative to make timely reports on the situation to the local Party committee and people's council, and ask for instructions on work.

They must strengthen the connections among relevant departments, study improvement measures, and request local planning committees and economic committees to include in their plans the supply and transportation of raw materials,

supplies and fuel required by small modern [cement] plants. They must make overall plans and unified arrangements, and gradually arrive at a proper relationship between supply and demand. In this way, not only will cement production be facilitated, but economies will result in transportation. This will greatly benefit the supply situation in the market. Thus, any factory which produces more than 1,000 tons a year should be considered for inclusion in the unified arrangements for production and supply made by the provinces and municipalities.

(7) We must actively assist the special administrative districts, hsien, and people's communes to operate properly small native cement works. Production must be developed according to needs. Forces must be organized to help them to summarize production experiences. Guidance for production technique must be strengthened, and technical levels and labor productivity must be raised. Particularly in the case of plants with good resources, we must penetratingly mobilize the masses to improve labor organization, carry out the renovation of tools, and take steps to raise appropriately technical and equipment levels and to promote their transformation into small modern plants.

(8) We must strengthen statistical work. During the past two months, statistical work connected with cement production in the small modern cement industry has seen great improvement. In general, however, there are still production figures of many small modern plants which have not yet been included in our statistics. Many enterprises have been omitted. The small modern cement works operated by all trades and industries should be included in production statistics. It is hoped that all provinces, municipalities, departments and bureaus will take the initiative and strengthen their connections with relevant departments and enterprises, and establish necessary regular statistical systems. They should also strengthen guidance in production technique and organize timely exchanges of experiences.

In the Field of Capital Construction:

(1) In designing, in construction, in the manufacture of equipment, and in installation, we have made great achievements in the capital construction of small modern plants. At present, our major task in capital construction is to guarantee the start of production by units now under construction, and due for completion within 1959. We must

control the two major links of final work on the completion of full sets of equipment and installation of equipment. As soon as these two tasks catch up, we shall have a guarantee for the start of production by 76 small modern plants within 1959. We shall also create favorable conditions for production in 1960, particularly in the first quarter of that year.

In the completion of full sets of equipment, the accessories still lacking are only fragmentary. When concentrated, however, they amount to large quantities. It is difficult to rely solely on the Ministry to solve the problem. In principle, the various localities should make their own arrangements to solve their problem. Nevertheless, whatever the Ministry can do, it will give vigorous support.

In the work of installation, a definite technical force has grown up in different localities during 1959. Many experiences have been gained. All localities should attach importance to this force, actively foster it, and raise its technical level. In areas where installation forces are too weak, the Ministry can despatch technical personnel to give concrete guidance.

(2) As to capital construction in 1960, key efforts should be placed on adjusting and improving the equipment of existing plants. Through vigorous promotion of technological revolution and technical reform, and with the adoption of a combination of native and modern methods, we must improve equipment and improve tools. In this way, not only shall we spend less money and get supplies quickly, but we shall also achieve great results. As long as conditions are favorable, this method should be followed. Apart from this, in areas where the work connected with the cement industry is weak, we should actively undertake the planned construction of new projects.

(3) In the construction of future new plants, we must pay attention to the selection of sites, and control the prospecting and investigation of natural resources. We must strive to achieve the "three local expediences" (local materials, local production and local utilization) and "four reliances" (reliance on proximity of resources, reliance on proximity to communications, reliance on proximity to water sources, and reliance on proximity to power sources), to achieve economy and reasonableness. The T'angshan Municipal Cement Works, which we have all inspected, is the

most ideal. Its left hand can grasp the clay, its right hand can grasp limestone, its back is coal from Kailan, and its front is the Peiping-Shanghai K'uan Railway. It has also a network of highways which reach in all directions. So the cost of production of this plant is especially low. Of course, in the selection of a plant site, it is difficult to find all these conditions available. Nevertheless, an effort should be made to realise the "four reliances". Particularly in the case of a plant with a production capacity of 32,000 tons or more, this step is all the more necessary. This is because we must give consideration to continual elevation of the degree of mechanization and electrification, and expansion of the scale of production. If full consideration is not given to these conditions, we may easily create a long term situation of irrationality and waste in production.

(4) We must control capital construction tasks. We must grasp the element of time, the element of quality and key problems. We must concretely attend to the acquisition of equipment and materials and their installation. According to experiences in Hopei and Kiangsi, there are six aspects of work summed up in the words: pressing for delivery, transfer, borrowing, assembling, use of substitutes, and manufacture.

(i) Pressing for delivery. After orders have been placed for materials and equipment, we must keep in contact and constantly press for delivery.

(ii) Transfer. We must unearth potentials on all sides, and with the same locality, those who have must exchange for what they have not. In this way, mutual regulation of supplies may be realized.

(iii) Borrowing. We must promote vigorously cooperation, mutual support, and mutual borrowing of supplies, guaranteeing their repayment on schedule.

(iv) Assembling. We must look into scattered accessories not making up full sets, bring them together and build them into whole sets.

(v) Use of Substitutes. With reference to certain accessories, where materials and transport facilities are lacking, so long as engineering quality is not affected, substitutes may be used.

(vi) Manufacture. We must exert self efforts for rejuvenation, and mobilize the masses to manufacture equipment and accessories themselves.

We must greatly develop these experiences and the spirit of taking the initiative to actively solve problems. In addition, we must make intensive calculations, strive to economize, use modern methods where they are available, and use native methods where modern methods are not available, to overcome the mentality of waiting and relying on others.

(5) We must control preparations for production. In this connection, from the start of the construction of a plant, we should launch the following projects:

(i) The fostering of technical forces. We must adopt the method of working and studying side by side, and invite instructors to the plant or despatch workers outside to study.

(ii) We must make proper preparations for raw materials, fuel, and accessories.

(iii) We must establish and organize machineries to formulate various management systems and technical working regulations.

(iv) We must adopt the method of construction, production and training side by side. When one mill is installed, it must be put into operation. When there is work for the mill, it must be operated. When there is no mill, the kiln must be heated, and the semi-finished materials accumulated. Cement production must be carried out when the mill is ready. When the kiln and the mill are constructed, before accessory equipment is complete, we must adopt a combination of native and modern methods or use manual power to carry out production. The native method may start first, and then a combination of native and modern methods may be gradually introduced. This will lead to an early return on investment and also foster technical forces, thus making good preparations for official production. In this connection, Kiangi, Honan and Hopei all have gained good experiences which should be studied and popularized.

(6) We must vigorously strengthen designing work. During the big leap forward of 1958, the designing depart-

ments made timely plans applicable to plants with an annual production capacity of 32,000 tons. This was done to cope with the situation calling for vigorous development of the cement industry. Designing departments of various localities also developed their creativeness and produced plans for small cement works of different patterns and sizes. These plans have been found basically applicable after actual implementation and gradual improvement.

However, some problems still exist in construction and artcraft. We must still organize designing personnel to penetrate work sites for investigation and study, absorb the views of the masses, summarize experiences and decide on models. In this way, we shall gradually perfect the designing of small modern plants so that they are both economical and workable.

The question has risen as to whether it is desirable to enlarge a model with an annual production capacity of 2,000 tons, to develop the activism of people's communes in the operation of industry, and to promote the transformation of small native plants into small modern plants. Such a small plant does not need electric power. A steam engine may be used for motive power to suit the concrete situation of great differences in local conditions in China's great expanse.

On the question of extent of mechanization, the present group of small cement works have native kilns and modern mills. For drying equipment some have drying machines while others use the native drying beds. Some have mechanized transport system. Some use native methods combined with modern methods. Still others use native facilities exclusively. The use of native facilities leads to low efficiency and great waste of labor. It is necessary to gradually raise the extent of mechanization.

Designing departments may embark on an experiment, study the conversion of a native kiln in a 32,000 ton plant into a mechanized vertical kiln, and look into economic effects to see if conversion is desirable.

If the steel needed is not much, and the conversion of the native kiln into a mechanized kiln can double production capacity, it is something very wonderful indeed. Of course, general designing is based on general conditions, and cannot fully meet the concrete conditions

governing the construction of plants in all localities. Such a design can only serve as guidance and reference data in concrete designs for particular plants. We hope, therefore, that in the use of general designs, the appropriate designing departments will carry out a concrete examination to avoid waste.

(7) On the question of a schedule for capital construction, under general conditions, we should strive to proceed with work according to the schedule set for capital construction. This means that we start with surveying and investigation and follow with designing. Construction should begin only after concrete designs have been prepared. This is a basic formula arrived at after years of capital construction. Particularly in the case of the construction of a small modern plant of 32,000 tons, we must first clarify ourselves on conditions relating to natural resources.

With Reference to Target Arrangements for Production and
Capital Construction of Small Modern Cement Plants

in 1960

In 1960, production target for small modern cement plants throughout China may be set at four million tons. We shall strive to achieve the goal of five million tons. In this way, we shall raise production two to three times above 1959 production. Production during the first quarter of 1960 must show an increase of 30 percent over the fourth quarter of 1959.

As to our target for capital construction, we demand that during 1960, production capacity be increased three million tons, including that from small modern plants with an annual production capacity of less than 32,000 tons.

With the realization of the above two targets we shall still have an especially large leap forward.

To greet the greater, better, and more comprehensive leap forward in 1960, we have not only to control our current production and capital construction tasks, but, at the same time, make proper preparations for production and capital construction in the first quarter of 1960. We must attend properly to the supply and storage of raw mater-

ials and fuel.

Comrades! As our conference comes to its victorious conclusion, the National Conference of Heroes opens tomorrow in Peiping. This conference is a great meeting for the review of brilliant achievements in industry, communications, transportation, capital construction, financial and trading work since the big leap forward. It will meet to pledge forces to continue opposition to rightist thinking, exert utmost efforts and strive for a continued big leap forward. This meeting will give great encouragement to the broad masses of workers on the industrial, communications, transportation, capital construction, financial and trading fronts throughout China. It will push forward the current hightide of production, so that it will move on with each succeeding crest higher than the previous one. To put up concrete action in felicitating the opening of the National Conference of Heroes, delegates /to our present conference/ from various localities on their return home must report to the local Party committees the spirit of this on-the-spot meeting, and rapidly transmit it to the workers of appropriate enterprises. This will mobilize the whole body of workers to perform outstanding production achievements to offer as gifts to the Conference of Heroes.

STRUGGLE FOR OVERFULFILLMENT OF THE 1959 TASKS AND
STRIVE FOR A CONTINUED LEAP FORWARD IN 1960

/The following are excerpts from the report of Liu Hsiu-feng, Minister of Construction and Engineering, at the Meeting for the Exchange of Experiences of the Construction System in the National Conference of Heroes, as published in Chien-chu Ts'ai-liao Kung-yeh (Construction materials Industry), Peiping, no 22, 23 November 1959, pp 3-7./

Just as is the case with other fronts throughout China, the current situation in the construction industry is bright and is extremely favorable. Since the Eighth Plenum of the Eighth Central Committee of the Party issued the great call for opposition to rightist thinking, exertion of the utmost efforts, and further development of the movement for increased production and economy, in a very short space of time, there emerged a fiery zeal comparable to that which appeared after the Pei-tai-ho conference in 1958. The broad masses of workers are full of spirit and filled with skyrocketing zeal. With industrious work, realistic efforts, and skillful labor, and through comparisons with the advanced, studying the advanced, and catching up with the advanced in their labor emulations, they enthusiastically responded to the call of the Party and rapidly brought about a new hightide in the movement for increased production and economy. Many leadership cadres penetrated the work sites, boarded, lived and labored together with the workers, and led production in the midst of production.

In their emulation drives, the political enthusiasm and production enthusiasm of the broad masses of workers rose high, and the Communist character was greatly developed. Each one chased the other. They also helped one another. A million people had a single heart to seek the leap forward in unison. Everywhere were scenes which moved the people.

The current movement was developed on the foundation of the big leap forward of 1958. Its special characteristics were: development was both rapid and stable; it was both extensive and penetrating; it was both vigorous and practical; the successive crests of the hightide grew higher

and higher, and production targets rose vertically. It was truly a case of the simultaneous achievement of quantity, speed, quality and economy, and there was a dual bumper harvest of both ideology and production.

With the development of the movement, many areas and enterprises reported better and better conditions each succeeding month in regard to the fulfillment of plans. Many enterprises achieved a state in which they obtained high results at the very commencement of production, and maintained such records for every ten-day period of the month, every month, and perpetually. They started to switch over from the "old law" under which there was a relaxation of efforts at the beginning of a month, to be followed by tense efforts at the end of the month. They not only fulfilled their production tasks properly, but also made a great leap forward in the field of quality, cost, labor productivity and safety in production.

In the field of construction and installation, work completed in August 1959 was 18 percent in excess of that in July. In September, there was a further increase of 48.4 percent over August. In October, a further increase over September was made. By the end of September, the system under our Ministry had completed 76 percent of the construction and installation plans for the whole year. This amounted to an increase of 15.9 percent over the corresponding period in 1958. This was the greatest achievement for the first three quarters of any year.

By the latter part of October, we had advanced by more than two months the fulfillment of the plans for the whole year of 1959 for more than 50 construction and installation projects. In many districts, with the enforcement of rapid construction over large areas, the rate of completion and delivery of projects was greatly increased. Peiping Municipality toward the middle of August, brought forward the proposal for working energetically for 50 days to realize the task of the final phase of construction projects covering one million meters. By September 30, the task was overfulfilled by 25 percent, the work carried out being 70 percent in excess of the total construction area completed during the previous seven-month period.

By the eve of National Day, Tientsin Municipality had worked strenuously for 37 days, and had completed ahead of schedule, work over 1.5 million square meters. Shansi

Province organized three contests centered round the completion and delivery of constructed projects, and the constructed area to be delivered was estimated to reach 1.5 million square meters.

With reference to engineering quality, according to incomplete statistics from Hopei, Shansi, Liaoning, Kiangsu and Kwangsi, of the 2,245 projects completed and delivered during September 1959, 99 percent reached standards of excellence. The labor productivity of construction and installation workers was also raised greatly. In August it was raised to 22 percent above that of July, and in September it was raised 37 percent above that of August. In some cases, the labor productivity was raised by more than 50 percent.

Engineering costs were being reduced further. In August the average cost dropped 12 percent, and in September it dropped another 15.6 percent. The drop for enterprises directly under the Engineering Bureau was 18.8 percent in August, and 21.5 percent in September.

Accidents were reduced to a marked degree. Though construction tasks were greatly increased in September, the number of accidents was the lowest for the year.

In the field of surveying and designing, according to statistics from designing units directly under the Ministry, the number of items planned in September showed an increase of 160 percent over August. The area where designing was completed showed an increase of 140 percent. In both August and September, the quality of blueprints reached 99.2 percent thereby eliminating low-quality results. With the great acceleration of the speed of surveying and designing, by the end of October, we had overfulfilled the whole year's task by 16.7 percent and two months ahead of schedule.

The production of construction materials was also rising rapidly. The output of cement in August was 5.7 percent higher than that of July, that of September 11.8 percent higher than August, and that of October 6.8 percent higher than September. The average daily output of medium size and large cement works throughout China was raised from over 31,000 tons in September to 32,000 tons in October. The output from the "horde of small modern cement works" in the whole country increased even more

drastically, and by the end of September, the provinces and municipalities of Honan, Hunan, Peiping and Shanghai had fulfilled the plans laid down by the state for the whole year. The quality of cement was being raised continually. During September, the entire output from large and medium size cement works met required standards, and universally exceeded 30 to 50 branding levels. The cement from the "horde of small modern plants" also reached grade number 300 and above. There was also improvement in the raising of labor productivity and the reduction of costs. The production costs of the "horde of small modern works", on the average, dropped by more than 20 percent compared with the first half of 1959. In some cases costs dropped to near the level of prices charged for cement allotted by the state.

In the manufacture of pane glass, by the end of October, we have fulfilled 87.8 percent of the plans for the whole year. The last quarter will be greatly overfulfilled. As to the quality of products, 86 percent of the output has reached first grade quality, while the Dairen Glass Works reported that over 99 percent of its output reached that grade. In the production of such items as glass fiber, asbestos, gypsum and mica, the annual plans are expected to be overfulfilled, in different cases, by from 25 to 50 percent.

We have also made great achievements in planned municipal construction. Summing up the work done, there are now 184 large and medium size cities and more than two-thirds of our hsien cities which are carrying out planned construction to varying extents. Key points for planned development have also been established in 320 people's communes and 470 residential communes. In municipal construction, the prominent task in 1959 has been solution of the problem of water supply for cities. Under the condition of a lack of material supplies and equipment, we have, on the one hand, attended earnestly to the construction of water supply engineering projects, and, on the other hand, developed a movement for increased production and economy. We have made definite improvement in the water supply situation, thanks to the leadership of Party committees and governments of various areas, and with reliance on the masses to put up their own efforts for rejuvenation. Since August, the zeal of the workers grew greater, and the speed of municipal construction was greatly increased. The work volume completed in the months of August, September and October exceeded the sum total of the work done during the

previous several months.

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What are our current tasks? They are, the further implementation of the resolution of the Eighth Plenum of the Eighth Central Committee of the Party, opposing rightist thinking thoroughly; exerting the utmost efforts for a great battle of 60 days; to guarantee overfulfillment of the current year's tasks with quantity, speed, quality and economy; to make active preparations for 1960's production; to lay a good foundation for 1960's continued big leap forward.

In the field of construction and installation, we must guarantee overfulfillment of our tasks by 10 percent. We must work as much as we can. Engineering quality must be further raised on present foundations. Engineering costs must be reduced by an average of 15 percent and more, on the basis of the budgeted quota laid down in 1959.

This calls for the full development of the experiences of the big leap forward, persistence in letting politics assume command, vigorous development of the mass movement, vigorous enforcement of rapid construction methods, vigorous promotion of the technological revolution, vigorous development of diversified economy, and vigorous promotion of Communist cooperation.

Rapid construction represents the concentrated manifestation of the thorough implementation of the general line in the construction industry. We have proved that whatever the engineering job, rapid construction can be enforced so that the engineering project may be completed at an early date and thrown into production. We must now continue to enforce rapid construction over large areas, and organize contests in groups and stages. We must grasp tightly the finishing touches of engineering projects, and as far as possible expand the areas over which construction is to be completed. In this way, the projects may be completed at an early date to be put into production or delivered for utilization. We must make early arrangements for the items, of which construction is to start during the first quarter of 1960.

The surveying and designing departments must complete

in 1959 some of the tasks scheduled for 1960, to guarantee the needs of the construction units.

In the production of construction materials, we must guarantee the great overfulfillment of the state plans for cement, and strive to fulfill or approach within 1959, the cement production targets laid down for the Second Five Year Plan. We must also strive for the overfulfillment, by a large margin, the targets for such products as glass, asbestos, gypsum and mica. November is a key month, and we must immediately develop a "big battle" of high quality and high output. We must continue the policy of "walking on two legs", and make both the horde of large modern plants and the horde of small modern plants increase production simultaneously. We must vigorously promote the technological revolution and technical reform, and popularize such effective advanced experiences as the "three big and one fast measures". We must strengthen maintenance, inspection and repair of equipment, and raise the rate of utilization of equipment. We must control the situation relating to the supply and economy of raw materials, resources and fuel in order to guarantee that production will rise steadily.

In municipal construction, we must continue to devise means and ways to solve difficulties arising out of the lack of material and equipment. We must strive for the fulfillment of 1959's projects connected with water supply, drainage, roads, bridges and flood prevention in the cities and industrial areas, to guarantee the smooth progress of industrial construction.

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In connection with municipal construction, we mention the Chen Chan-ch'i stone work squad of Peiping's Second Municipal Administration Company which worked on paving the Tien An Men Highway with marble slabs since December 1958. Technical forces were very weak, and the time for construction was pressing. The team overcame all kinds of difficulties and victoriously fulfilled the task.

The Filtration Team of Canton Municipal Waterworks Company vigorously promoted technical reform, improved equipment, improved working methods, and the filtration capacity was raised from 4,100 tons to 7,100 tons per hour.

Comrade Shih Ch'uan-hsiang, a sanitary worker in Ch'ung-tsen Ch'u in Peiping, made extraordinary achievements on his ordinary work post. With his experience of more than 30 years, he continually improved labor organization and greatly raised labor efficiency. In the 1958 movement for the accumulation of manure, he utilized rest hours to lead the workers of the whole team to accumulate more than 300,000 chin of manure in a few days.

Comrade Fan Hsu-ming, conductor of Dairen Tramcar Company, consistently loved his work, and earnestly served in three capacities (service worker, Party propagandist, and social moral reformer), and made "four achievements" (exhibition of civility and courtesy, beautification of his car, pursuing the mass line in work, and maintaining rigid discipline in daily living). He was regularly praised by passengers. During 1958 alone, he received 588 letters from passengers praising him. On more than 12,000 [sic] occasions he was presented with a red flag in his car.

PROPOSALS TO ALL CONSTRUCTION WORKERS IN CHINA BY THE
CONSTRUCTION INDUSTRY'S DELEGATION TO
THE NATIONAL CONFERENCE OF HEROES

[The following are translations of two proposals, one addressed to workers of the cement industry, and the other to workers of local construction materials industry, from the delegation of construction industry workers to the National Heroes' Conference, as published in Chien-chu Ts'ai-liao Kung-yeh (Construction Materials Industry), Peiping, No 22, 22 November 1959, pp 14-17, 19-20.]

Proposal to the Cement Industry

Beloved Comrades Workers of the Cement Industry in the Whole Country:

Under the wise leadership of the Party and Chairman Mao, and under the illumination of the general line for building socialism with the exertion of the utmost efforts, pressing forward consistently, and achieving greater, faster, better and more economical results, the whole body of workers of the cement industry front has persisted in letting politics assume command. They have implemented the policy of "walking on two legs", enforced in their work the two participations (one reform and three combinations), promoted vigorously the mass movement, developed vigorously technical reform and technological revolution, and particularly under the combat call issued by the Eighth Plenum of the Eighth Central Committee of the Party for opposition to rightist thinking, exertion of utmost effort and rigid practice of increased production and economy, have launched vigorously the movement for increased production and economy and have achieved gigantic results.

The current central tasks of the cement industry are: the guaranteeing of the fulfillment of the 1959 production increase and economy plans; and the realization, three years ahead of schedule, of the targets for cement production laid down in the second Five Year Plan. In order to fulfill this glorious and difficult task, we propose the following: the whole body of workers on the cement industry front

throughout China will, during the last two months of 1959, work energetically, work specially and work skillfully, on the foundation of penetrating development of the campaign to oppose rightist thinking and to exert utmost efforts. First of all, let us fight the great battle of November, continue to develop penetratingly the movement for increased production and economy, with the achievement of high quality, high output, low cost and safety in production. Let us fulfill in an overall manner the increased production and economy plans with quantity, speed, quality and economy, so as to meet the needs of national industrial construction and agricultural construction. We guarantee the realization of the following conditions:

1) Fulfillment in advance of the state plan for the output of 11 million tons of cement in 1959, and guarantee the realization of the increased production and economy plan calling for an output of 12 million tons, at the same time, striving to raise the output to 12.5 million tons.

2) We guarantee that cement leaving the factory shall conform fully with the kinds and brands laid down by the state, that all the output will satisfy national standards. Cement from the small modern works shall be guaranteed to have 95 percent reaching grade No. 300 and above, with good stabilization power.

3) We guarantee that cost of cement will be reduced by five percent on the basis of the 1959 plans, and the overfulfillment of profits submitted to the state will rise 10 percent. We guarantee the cost of cement from the small modern works will be generally between 60 and 70 yuan per ton, with the advanced works reaching the low of 26 yuan.

4) We guarantee safety in production, eliminating serious accidents and deaths, and accidents to equipment, and reducing minor accidents and general accidents to equipment.

5) We guarantee the continued creation of conditions for the continued leap forward in the cement industry in 1960 on the basis of the overfulfillment of the 1959 increased production and economy plans.

We are adopting the following measures for the realization of the above mentioned conditions:

1) We shall earnestly study and implement the resolution of the Eighth Plenum of the Eighth Central Committee of the Party, oppose rightist thinking thoroughly, exert efforts to the utmost, sweep clean all the obstacles on the road of the general line, resolutely protect the general line, and further push, to a new hightide, the movement for increased production and economy.

2) We shall further develop penetratingly the movement for technical reform and the technological revolution. We shall earnestly study and popularize advanced experiences and new techniques, beginning with the universal popularization of all advanced experiences and new techniques which have been enforced with success in the country. Some of them are the "three large and one quick" work method on the cement kilns, the use of mineral ore dregs as material, the use of lime as material, the use of black slurry, the use of mineral agents, the two end feeding system, the material detention washer, heat circulator, grinding agent on the grinding mill, powder dressing machine, graded boards, and individual grinding process. All these will facilitate raising the production capacity of major machines. They will specially increase rapidly the production of semi-finished materials, raise their quality and thus satisfy the needs of increased production of cement.

3) We shall implement the policy of the combination of concentrated and unified leadership with the vigorous development of the masses, further strengthen the management of enterprises, earnestly practice planned management, technical management, management of equipment, and management of business with various regulations and systems. The leadership cadres shall participate in production, direct production, and control production each ten-day period, each day, each shift, and each hour. We shall strengthen the safeguarding and inspection and repair of equipment and strictly control the quality of products. We shall improve labor organization and strengthen economic accounting.

4) We shall push to a hightide the emulation drive for studying from the advanced, comparing with the advanced, catching up with the advanced, and helping the backward. At this moment we shall pay special attention to the universal popularization of the "technical exhibition competition" created by Liaoning Province. This is simple to practice and brings good results, so as to reach the goal

of using our advantages to make good our shortcomings, and to seek elevation of all. At the same time, we shall develop great cooperation within an enterprise, among shifts, among workshops and other units. We shall also practice great Communist cooperation with outside units, mutually helping one another and supporting one another, to promote the leap forward together.

Whole Delegation of the Cement Industry
Section of the Construction System to
the National Conference of Heroes.

Peiping, 7 November 1959.

Proposal to the Local Construction Materials Industry

Beloved Comrades, Workers of the Local Construction Materials Industry of All China:

We have gloriously participated in the National Conference of Advanced Groups and Advanced Producers of Socialist Construction in Industry, Communications and Transport, Capital Construction, and Finance and Trade. During the course of the conference we heard reports and directives from chiefs of departments, traded many valuable experiences of the big leap forward, greatly elevated our understanding, further enriched our experiences, and strengthened our determination in combat. We unanimously express the view that we must put up practical acts in response to the great call of the Party, under the leadership of the Party, guard against conceit and pride, continue to hold high the red flag of the Party's general line, and follow the victorious path of the big leap forward opened in 1958.

We shall further implement the directive of the Party on "opposition the rightist thinking, exertion of the utmost effort and rigid practice of increased production and economy", carrying out the anti-rightist struggle to its end, continuing with revolutionnary zeal to develop the movement for increased production and economy more penetratingly, more extensively, and more permanently. We guarantee fulfillment of the 1959 industrial production plans ten to fifteen days ahead of schedule, in the struggle to realize within 1959, and three years ahead of schedule, the major targets of the second Five Year Plan. We shall also make good preparations for production in 1960, and

strive for a greater leap forward that year.

In order to encourage one another, promote one another, learn from one another, to be united as one, to cooperate single-heartedly, and to leap forward hand in hand together, we make the following special proposals before the whole body of workers in the local construction materials industry:

A. Realization of Good Quality and High Output.

I. In Regard to Quality

- 1) In brick production, the percentage of good products must reach 95 to 99.5 percent of all output, and from 90 to 95 percent or more must be first grade.
- 2) In tile production, the percentage of good products must reach 95 to 99 percent of output, and from 90 to 95 percent or more must be first grade.
- 3) In linoleum and paper linoleum production, the percentage of good products must reach 98 percent or more of output, and the quality must be up to state standards.
- 4) In lime production, the percentage of good products must reach from 95 to 99.8 percent of output.
- 5) In the production of stone, sand and other construction materials, quality must be guaranteed to satisfy needs.

II. In Regard to Quantity

- 1) For bricks, each cubic meter of capacity of a rotary kiln must produce from 3,000 to 4,000 bricks a month; native kilns must reduce the turnover period to from five to seven days, and their productivity raised by from five to ten percent.
- 2) For linoleum and paper linoleum, each machine must produce from 85 to 90 rolls an hour.

III. When possible, actively popularize advanced experiences, improve artcraft, equipment and tools, and improve technical work methods. Also strive to raise labor productivity by 30 to 50 percent.

- 1) In the brick and tile industry, promote strenuously the simple rotary kiln, and the double outlet rotary kiln.
- 2) In the stone materials industry, popularize the method of loosening by explosion, the method of processing with cutting machines, and gradually realize semi-mechanization in development of mining, processing and transport.

IV. Economize Raw Materials and Fuels, Reduce Depreciation Quotas and Lower Production Costs.

- 1) Bricks and tiles. In a rotary kiln, coal consumption shall be from 0.5 to 0.8 ton for each 10,000 bricks. A native kiln shall consume coal 1.5 to 1.8 tons for each 10,000 bricks. For red tiles, coal consumption shall be 1.5 to 2 tons per 10,000 tiles, and for green tiles, from 2 to 2.5 tons.
- 2) For lime, a modern kiln shall consume 0.14 ton of coal in respect of each ton produced, and native kilns shall consume 0.3 ton.
- 3) Strive to lower costs by 5 percent on the basis of existing conditions in the production of all kinds of local construction materials.

SOME PROBLEMS IN CURRENT PRODUCTION AND
CONSTRUCTION IN THE GLASS AND PORCELAIN
INDUSTRIES

[The following are excerpts from an article by Ch'u Fei, Deputy Chief of the Glass and Porcelain Industries Control Bureau, Ministry of Construction and Engineering, in Chien-chu Ts'ai-liao Kung-yeh (Construction Materials Industry), Peiping, no 22, 22 November 1959, page 21.]

Like the political and economic situation in China, the situation on the current porcelain industry front is an expanse of brightness, and is extremely good. After we made a clean sweep of rightist thinking and the fear of difficulties, production grew steadily, capital construction progressed rapidly, and the quality of products has been raised.

This good situation is the result of the development, by the whole body of workers of the porcelain industry, of the movement for increased production and economy. The movement is centered round high output, good quality, high efficiency and low production costs. The movement has been launched in response to the call of the Central Committee of the Party "to oppose rightist thinking, exert utmost efforts, and rigidly practice increased production and economy."

At the moment, the central task on the porcelain industry front is to continue our opposition to rightist thinking, exert utmost efforts, and develop permanently and penetratingly the movement for increased production and economy already launched with great vigor. We may thus guarantee the fulfillment in advance of the plans for increased production and economy for 1959 in respect to pane glass, high grade glass fibers, and porcelain products.

We demand basic completion during 1959 of the newly constructed high grade glass fiber projects for the glass works at Shanghai, Hangchow and Harbin, and the pane glass projects of the glass works at Lanchow and Kunming. These plants are to be thrown into production in the first quarter

of 1960.

We demand that the Chuchow Glass Works attend to proper production and produce more glass during the remaining period of over a month in 1959.

Other new constructions, especially those which carry production tasks for 1960, must also be accelerated by all ways and means, and the quality of construction guaranteed.

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SOME EXPERIENCES IN THE VIGOROUS OPERATION OF SMALL SIZE CEMENT FACTORIES

The following is a full translation of an article submitted by the Anhwei Provincial Department of Construction and Engineering to Chien-chu Ts'ai-liao Kung-yeh (Construction Materials Industry), Peiping, No 22, 22 November 1959, pp 24-25.

In the past the cement industry was a blank in our province. Under the leadership of the Party, cement production achieved flying development due to our resolute implementation of the policy of "walking on two legs". Attending both to large enterprises and to medium size and small enterprises, and taking up simultaneously modern methods and native methods of production have resulted in great success.

During the big leap forward in 1958, in order to meet the needs of farmland conservation, the development of the network of rivers, and other capital construction projects, under the leadership of the Party all areas in the province developed the mass movement for the vigorous promotion of the cement industry. Within a few months, we brought about a situation in which small vertical kilns blossomed everywhere. We established more than 1,000 small native kilns and more than 10,000 small native cement works, and produced 107,922 tons of native cement (including some silicate cement). This played an important role in solving the problem of cement supply in Anhwei.

In 1959, all localities in Anhwei adopted the measure of "five fixed" and the principles of "three reliances" and "three local expediences". They carried out an overhauling, consolidation, elevation and technical renovation of small native cement works. Plants which underwent this overhauling started to produce along normal tracks.

At present Anhwei has 28 small modern cement works. Of these, 18 are large scale. Up to October, these plants have produced 58,000 tons of cement. Moreover, the overwhelming majority of this output reached grade number 300 and above. Stability was very good. Only individual plants

were found instable.

In the matter of production cost, in 1958 the small native cement works produced on the average at a cost of from 150 to 200 yuan /per ton/. At present, small modern cement works have reduced costs from 80 to 100 yuan per ton. The Huai Ho Cement Works has reduced its production cost to 63 yuan /per ton/. It can be affirmed that with continued efforts, output and quality will be further raised, and production costs will be greatly lowered.

The above conditions show that the cement industry of Anwei started from scratch, proceeded from native methods to modern methods, and achieved gigantic results. This fully proves the greatness and correctness of the general line of the Party for socialist construction and the policy of "walking on two legs." However, like other parts of China, in the first stage of the vigorous development of the cement industry and the vigorous promotion of the mass movement, Anwei also met challenges and attacks from rightist opportunists and people with rightist thinking and rightist feelings.

They said, "To develop the cement industry with native methods involves high cost and gives low quality. It is a losing proposition." They said that such a method would lead to "gains not enough to offset losses, and the people would be troubled and capital losses will result." This evil wind, for a time, affected the mentality and enthusiasm of a small number of people. For a while, production was not normal.

After publication of the resolution of the Eighth Plenum of the Eighth Central Committee of the Party, the whole body of workers on the cement industry front throughout Anwei were given an effective weapon. Every one of them became high spirited and responded enthusiastically to the combat call of the Party. They threw themselves into the colossal movement for opposition to rightist thinking, exertion of effort, and increased production and economy.

Simultaneous with the criticism of the rightist thinking and rightist feelings of a small portion of cadres, production improved. In August, we overfulfilled our production plans. In September, output was raised 10.3 percent over August, and we fulfilled the state plan for the whole of 1959. In October, production also rose vertically. By

continued penetrating and thorough opposition to rightist thinking, exertion of utmost efforts, and a great battle for two months, it can be anticipated that our cement production will overfulfill the state plans by 60 percent, and create good conditions for the production of more and better cement in 1960.

During the past year or more, the vigorous development of small size cement industrial plants has given us the following experience:

(1) Reliance on the leadership of the Party and the fullest mobilization of the activism of the masses provided a guarantee for full victory.

The cement industry in Anwei developed so rapidly because, in the first place, the Provincial Party Committee and Party committees at all levels attached great importance to the industry. They mobilized the activism of the masses for self efforts toward rejuvenation, to overcome all difficulties and to achieve colossal results. In order to solve the difficulties of the cement industry, the Provincial Party Committee organized special meetings to discuss the problem. In order to strengthen cement industry leadership, the Provincial Party Committee established a Vertical Kiln Office. Party committees at all levels, in many cases, assigned secretaries and directors of departments to assume command personally and to attend specifically to the cement industry. This greatly roused the activism of the masses.

With the concern shown by the Party committees and the rise of the activism of the masses, the wisdom of the masses was further developed. Many units used self efforts for rejuvenation, overcame difficulties, and victoriously solved the problem of the construction of plants. For example, the Wuhu Municipal Cement Works self manufactured the globular mill. This not only solved the problem of equipment, but also created conditions for a change from native production methods to modern production methods.

At present, in Anwei, we are still preparing for the construction of many small native cement works and small modern cement works. The overwhelming majority of the equipment, materials and capital funds are procured locally. This method of fullest development of local activism and the use of self efforts for rejuvenation will be effectively carried out not only at present, but also in the future.

(2) We must persist in the truth that "spirits can be roused but must not be let off" if we are to guarantee a continued leap forward in production.

Since the big leap forward of 1958, workers on the cement industry front in Anwei exhibited very great zeal in the exertion of utmost efforts and pressing forward consistently. In this way, they were able to overcome all difficulties and report great achievements. After April and May 1959, as the result of the current of cold air blown by rightist opportunists, some people let their spirits decline, and some effects were felt. The Eighth Plenum of the Eighth Central Committee of the Party issued a timely combat call, and immediately a new situation appeared. Advanced incidents continually emerged, and the production high tide continually rose.

The Hofei Cement Works, for example, in September raised its daily output to 30 tons from a daily output of 15 tons in August. The Huai-Ho Cement Works in Pengpu municipality, in September, produced 1,035 tons of cement, breaking through the 1,000 ton mark. This created a new record since the works were built. The Pai-Ma-Shan Cement Works in Juhu produced during the third quarter 73 percent higher than the second quarter.

Many units also made marked improvement in quality. Before the movement against rightist thinking and against relaxation of efforts, the Hofei Cement Works did not achieve great stability. Rejects reached as high as about 70 percent. Today, the percentage of semi-finished materials produced reaches more than 95 percent. The percentage of acceptable products from the Huai-Ho Cement Works also rose from 70 percent to about 90 percent. As to the grading of cement, generally all plants reached the 300 mark and above. Some reach the 400 mark.

Pushed forward by the colossal force of the anti-rightist campaign and the movement for exertion of the utmost efforts, industrial management and labor organization were overhauled and elevated to higher levels. This, in turn, reduced cement production costs. The Hofei Cement Works originally had 564 workers. After overhauling, 105 men were transferred to newly constructed plants and agricultural production. Cement production not only remained unaffected, but expenditures were reduced. Some plants naturally sought raw materials and substitutes. The Pai-

Ma Cement Works at Wuhu used coke as a substitute for anthracite, and each month saved 25 tons of anthracite. The Huai Ho Cement Works selected new lime deposits. The cost of limestone was reduced from 10.20 yuan per ton to 6.4 yuan per ton.

The above testifies to the fact that so long as we persist in the truth that "we must not let down our spirits", we shall leap forward and leap forward again, and lead victory to new victory.

(3) The study of advanced experiences and the development of technical reform.

Since 1958, the workers on the cement industry front in Anwei humbly studied the advanced experiences of fraternal units inside and outside the province, and have vigorously developed technical reform. Quality and output have been continually raised, and great achievements made.

The Hofei Cement Works at the start of production found a serious situation relating to the pulverization of semi-finished materials (the rejects sometimes reached 70 percent). They also found the stability of output most uncertain. The plant studied sintering with subdued fire as practiced by the Tsinan Cement Works and combined it with the concrete conditions of the structure of the plant's own kiln. Then, improvements were made. The sintering method was improved and the rate of acceptable semi-finished materials rose to about 95 percent. The grading of the material also gradually rose.

The Ma-An-Shan Cement Works, at one time, adopted sintering with subdued fire. However, because the materials contained more potassium and sodium, the quality of the semi-finished materials was inferior. The use of open fires for sintering was also successful. The grading of the materials reached number 400 and above, and the rate of acceptable materials reached about 90 percent.

During the first stage of the development of the cement industry in 1958, because we lacked equipment and instruments for the control of quality, the quality of cement was affected. The various plants strengthened measures for the control of quality, and adopted the measure of using lime as an ingredient to resolve the lack of equipment for grinding powder. Later, the sintering method was also im-

proved. Thus, we overcame the difficulties of the high rate of rejects in semi-finished materials, (through pulverization) and the lack of stability of products.

In the milling of powder, during 1958 various plants made many efforts. The Anking Cement Works succeeded in manufacturing feeding instruments, and guaranteed even feeding for its grinding machines. The Pai-Ma-Shan Cement Works re-installed the grinding machine. Output was increased by 330 percent (from three to four tons a day to 11 to 12 tons a day). The fineness of the outlets was reduced from about 40 percent to about 20 percent (4,900 holes per square centimeter of the sieve). The Huai-Ho Cement Works broke down the superstition in the Raymond machine rotation formula, and raised the number of rotations by 45 percent (from 122 rotations per minute to 177 rotations per minute). They correspondingly increased the velocity of the wind, so that the output of the milling machine increased by 50 percent (from 24 tons a day to 36 tons a day). They maintained the fineness at five percent (4,900 holes per square centimeter of the sieve).

Because the broad masses of workers on the Cement industry front in Anwei studied and popularized advanced experiences, and developed a technical reform movement, we effectively promoted the flying development of the cement industry.

(4) The strengthening of production management.

From the start of cement production to the present time, the cement works in Anwei have established regulations and systems relating to production management, quality control, and planning control. We have gradually eliminated the state of confusion in production management.

The Hei-Lung-T'ian Cement Works at Fou-Yang had good equipment. However, at first, due to bad production management, there was a serious tendency to emphasize output to the neglect of quality. From the time the plant was built up to June 1959, the plant never produced cement which satisfied stability standards. Since measures were taken for strengthening production management, the products immediately improved. All cement produced satisfied stabilization standards. All output reached the grading of number 300 and above.

The Pai-Ma-Shan Cement Works started production by native methods, but lacked experience in production management. The quality of products was low, and, at one time, there was a demand for the suspension of operations. However, with the strengthening of production management, and strict adherence to various work schedules, and the demand for both quantity and quality, the quality of products rose steadily month after month. The plant leaped forward to become one of the most advanced works in Anwei.

In regard to production management, we feel we must do the following jobs properly:

(1) We must strengthen production control. From the development of mineral ores to the departure of the products from the factory, we must establish a system of production control through the use of a chart, in keeping with different features of different processes. This must be rigidly controlled. Attention must be given to the summarization of experiences in mineral development, use of ingredients, sintering, and grinding. Technical working rules must be formulated. The laboratory must strengthen control of production.

(2) We demand close attention to production plans and further establishment of original records, deciding on the consumption quotas for raw materials and manpower. From these basic measures we shall rapidly proceed to the establishment and perfection of systems for technical control, planning control, and cost control.

(3) We must actively devise measures to strengthen the maintenance and repair of equipment. Where maintenance and repair teams have not yet been formed, they must be immediately formed. We must formulate a system of maintenance and repair, and fully develop the capacity of existing machinery equipment, and unearth its potentials.

With the development of industry in Anwei, and the increase of capital construction projects connected with water conservancy, the cement industry will have to develop continually further. In the future, in addition to the development of large and medium size cement works, we must also develop small modern works and small native works. We must continue to implement the Central Government's policy for "walking on two legs", and construct the cement industry of Anwei with quantity, speed, quality and economy.

END